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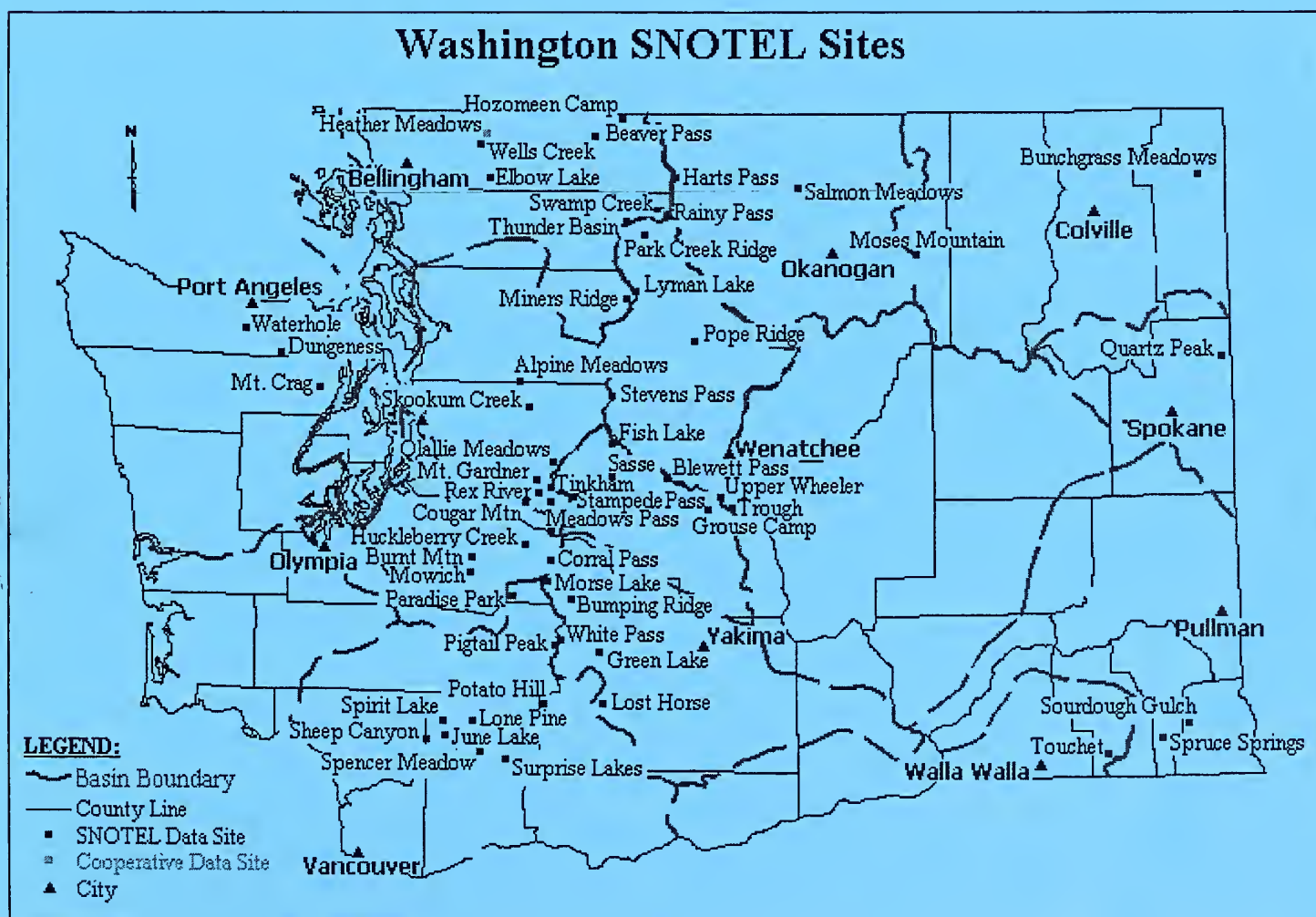
NRCS

Natural
Resources
Conservation
Service

United States Department of Agriculture

Washington Water Supply Outlook Report May 1, 2002

Washington SNOTEL Sites



Issued by

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The Following Organizations Cooperate with the Natural Resources Conservation Service in Snow Survey Work*:

Canada	Ministry of Sustainable Resources Snow Survey, River Forecast Centre, Victoria, British Columbia
State	Washington State Department of Ecology Washington State Department of Natural Resources
Federal	Department of the Army Corps of Engineers U.S. Department of Agriculture Forest Service U.S. Department of Commerce NOAA, National Weather Service U.S. Department of Interior Bonneville Power Administration Bureau of Reclamation Geological Survey National Park Service Bureau of Indian Affairs
Local	City of Tacoma City of Seattle Chelan County P.U.D. Pacific Power and Light Company Puget Sound Power and Light Company Washington Water Power Company Snohomish County P.U.D. Colville Confederated Tribes Spokane County Yakama Indian Nation Whatcom County Pierce County
Private	Okanogan Irrigation District Wenatchee Heights Irrigation District Newman Lake Homeowners Association Whitestone Reclamation District

*Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

Washington Water Supply Outlook

May 2002

General Outlook

Washington continued with unsettled but seasonable weather throughout the month. Cool temperatures and near average precipitation helped delay peak snowpack accumulation and subsequent melt by several days at some SNOTEL sites. This delay was seen in the lack of normal spring streamflows and increases in reservoir storage. As the month of May progresses and the snowpack begins to melt, we should see a normal increase in streamflows and subsequent rises in reservoir levels. Weather forecasters indicate a chance of having slightly above average temperatures and precipitation over the next 30-60 days.

Snowpack

The May 1 statewide SNOTEL readings were above average at 137%. The Salmon Creek Basin snow surveys reported the lowest readings at 5% of average. Readings in the Cedar River Basin reported the highest at 250% of average. Westside averages from SNOTEL and May 1 snow surveys included the North Puget Sound river basins with 129% of average, the Central Puget river basins with 195% and the Lewis-Cowlitz basins with 145% of average. Snowpack along the east slopes of the Cascade Mountains included the Yakima area with 124% and the Wenatchee area with 104%. Snowpack in the Spokane River Basin was at 139% and the Walla Walla River Basin had 123% of average. Maximum snow water content in Washington was at Paradise Park SNOTEL near Mount Rainer, with water content of 96 inches. This site normally has 74.8 inches of water content on May 1. The highest average in the state was Mount Gardner SNOTEL in the Cedar River Basin with 423% of average.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane	224	139
Newman Lake	182	121
Pend Oreille	150	110
Okanogan	183	107
Methow	229	109
Similkameen	214	116
Wenatchee	210	118
Chelan	242	130
Upper Yakima	228	138
Lower Yakima	202	109
Ahtanum Creek	206	101
Walla Walla	177	123
Lower Snake	171	106
Cowlitz	163	123
Lewis	237	166
White	196	109
Green	228	153
Puyallup	196	109
Cedar	292	250
Snoqualmie	229	170
Skykomish	200	144
Skagit	276	129
Baker	212	121
Nooksack	230	136
Olympic Peninsula	219	119

Precipitation

During the month of April, the National Weather Service and Natural Resources Conservation Service climate stations reported near average precipitation totals on the west side and mostly below average on the east side, with a few exceptions of above average totals in the Wenatchee and Yakima basins. The highest percent of average in the state was at Miner's Ridge SNOTEL, which reported 353% of average for a total of 18.3 inches. The average for this site is 5.1 inches for April. Basin averages for the water year remain near to above average with the Spokane area reporting the highest at 121% and the Walla Walla River Basin with the lowest at 99% of average.

RIVER BASIN	APRIL PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane	94	121
Colville-Pend Oreille	85	116
Okanogan-Methow	77	105
Wenatchee-Chelan	204	117
Upper Yakima	116	111
Lower Yakima	121	109
Walla Walla	78	99
Lower Snake	86	110
Cowlitz-Lewis	99	109
White-Green-Puyallup	103	104
Central Puget Sound	121	115
North Puget Sound	123	117
Olympic Peninsula	92	117

Reservoir

Seasonal reservoir levels in Washington vary greatly due to specific watershed management practices required in preparation for irrigation season, fisheries management, power generation and flood control. Reservoir storage in the Yakima Basin was 547,000-acre feet, 88% of average for the Upper Reaches and 184,000-acre feet, 109% of average for Rimrock and Bumping Lakes. The power generation reservoirs included the following: Coeur d'Alene Lake, 274,000 acre feet, 110% of average and 115% of capacity; Chelan Lake, 196,000 acre feet, 74% of average and 29% of capacity; and the Skagit River reservoirs at 87% of average and 47% of capacity.

BASIN	PERCENT OF CAPACITY	CURRENT STORAGE AS PERCENT OF AVERAGE
Spokane	115	110
Colville-Pend Oreille	39	95
Okanogan-Methow	33	41
Wenatchee-Chelan	29	74
Upper Yakima	66	88
Lower Yakima	79	109
North Puget Sound	47	87

Streamflow

May forecasts vary from 170% of average for the Rex River near Cedar Falls to 84% of average at the Snake River below Lower Granite Dam. May-September forecasts for some western Washington streams include the Cowlitz River at Castle Rock, 97%; Green River, 123%; and Skagit River, 112%. Some eastern Washington streams include the Yakima River near Parker, 116%; Wenatchee River at Plain, 111%; and Spokane River near Post Falls, 136%. Volumetric forecasts are developed using current, historic and average snowpack, precipitation and streamflow data which is collected and coordinated by organizations cooperating with NRCS.

Eastern Washington April streamflows were near to above average. The Walla Walla River near Milton Freewater had the highest reported flows with 206% of average. The Kettle River near Laurier with 83% of average, was the lowest in the state. Other streamflow percent of averages: the Cowlitz, 144%; the Spokane at Spokane, 138%; the Columbia below Rock Island Dam, 100%; and the Cle Elum near Roslyn, 118%.

BASIN

PERCENT OF AVERAGE MOST PROBABLE FORECAST (50 PERCENT CHANCE OF EXCEEDENCE)

Spokane	135-136
Colville-Pend Oreille	95-104
Okanogan-Methow	90-109
Wenatchee-Chelan	96-118
Upper Yakima	113-125
Lower Yakima	108-116
Walla Walla	104-110
Lower Snake	84-110
Cowlitz-Lewis	95-125
White-Green-Puyallup	120-123
Central Puget Sound	124-170
North Puget Sound	110-114
Olympic Peninsula	107-109

STREAM

PERCENT OF AVERAGE APRIL STREAMFLOWS

Pend Oreille below Box Canyon	103
Kettle at Laurier	83
Columbia at Birchbank	91
Spokane at Long Lake	142
Similkameen at Nighthawk	97
Okanogan at Tonasket	91
Methow at Pateros	84
Chelan at Chelan	103
Wenatchee at Pashastin	113
Yakima at Cle Elum	125
Yakima at Parker	126
Naches at Naches	131
Grande Ronde at Troy	135
Snake below Lower Granite Dam	101
SF Walla Walla near Milton Freewater	206
Columbia River at The Dalles	96
Lewis at Ariel	149
Cowlitz below Mayfield Dam	144
Skagit at Concrete	134

For more information contact your local Natural Resources Conservation Service office.

BASIN SUMMARY OF SNOW COURSE DATA

MAY 2002

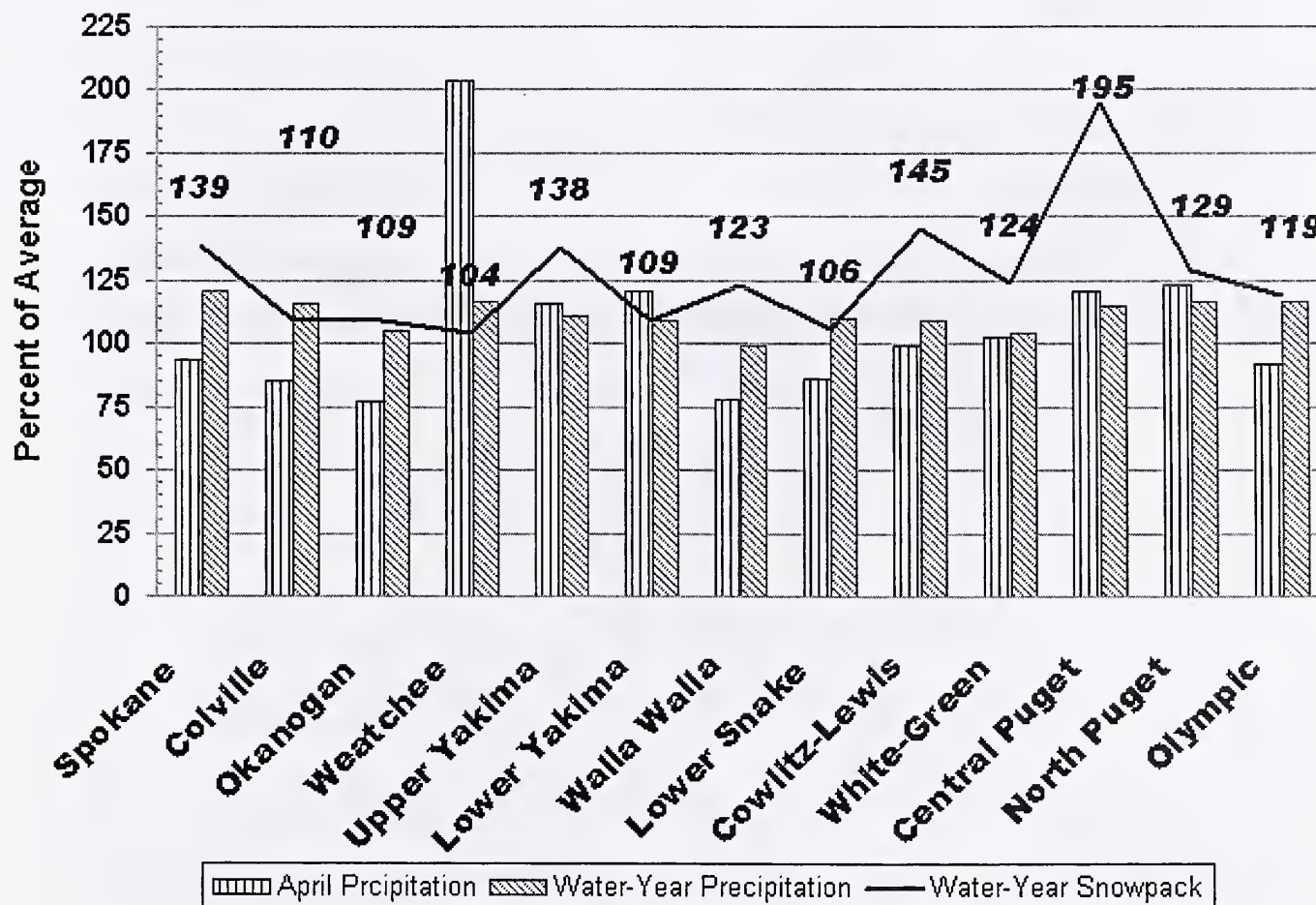
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
ABERDEEN LAKE CAN.	4000	5/01/02	1	.1	.4	1.5	LOLO PASS SNOTEL	5240	5/01/02	66	29.1	13.1	24.5
ALPINE MEADOWS SNTL	350 0	5/01/02	---	79.3	41.6	45.8	LONE PINE SNOTEL	3800	5/01/02	---	56.1	23.8	34.2
AMBROSE	6480	4/24/02	29	9.2	8.9	11.1	LOOKOUT SNOTEL	5140	5/01/02	---	43.8	17.7	27.2
ASHLEY DIVIDE	4820	4/30/02	1	.3	.6	1.1	LOST HORSE MTN CAN.	6300	4/30/02	35	11.8	7.8	9.8
BADGER PASS SNOTEL	6900	5/01/02	---	48.0	24.4	36.2	LOST LAKE SNOTEL	5000	5/01/02	26	11.6	4.0	11.6
BARRE CREEK	5500	4/29/02	104	47.6	26.6	40.3	LOST LAKE SNOTEL	6110	5/01/02	---	76.8	31.1	59.7
BARRE MIDWAY	4600	4/29/02	77	33.2	22.6	27.4	LOWER SANDS CREEK #2	3120	4/30/02	57	24.5	13.0	15.8
BARRE TRAIL	3800	4/29/02	19	8.0	7.2	1.3	LUBRECHT FOREST NO 3	5450	5/01/02	0	.0	.0	1.7
BARKER LAKES SNOTEL	8250	5/01/02	---	13.9	14.4	16.2	LUBRECHT FOREST NO 4	4650	5/01/02	0	.0	.0	.1
BARNES CREEK CAN.	5320	5/01/02	45	17.9	14.1	19.6	LUBRECHT FOREST NO 6	4040	5/01/02	0	.0	.0	.0
BASIN CREEK SNOTEL	7180	5/01/02	---	5.0	7.7	10.0	LUBRECHT HYDROPLT	4200	5/01/02	0	.0	.0	.1
BASSOO PEAK	5150	4/26/02	19	7.5	4.0	3.2	LUBRECHT SNOTEL	4680	5/01/02	---	.0	.0	.5
BEAVER CREEK TRAIL	2200	4/29/02	22	9.4	.0	4.4	LYMAN LAKE SNOTEL	5900	5/01/02	---	88.5	36.5	67.2
BEAVER PASS	3680	4/29/02	72	33.4	8.9	27.2	LYNN LAKE	4000	4/29/02	91	42.0	18.2	14.5
BERNE-MILL CREEK (d)	3170	4/29/02	69	30.0	17.2	22.5	MARIAS PASS	5250	5/01/02	43	20.4	12.4	12.5
BIG WHITE MTN CAN.	5510	4/28/02	52	21.3	13.6	19.4	MCCULLOCH CAN.	4200	4/30/02	0	.0	.0	1.2
BLACK MOUNTAIN	7750	4/24/02	30	9.4	15.9	16.9	MEADOWS CABIN	1900	4/30/02	4	1.4	.0	1.1
BLACK PINE SNOTEL	7100	5/01/02	---	8.6	7.7	11.0	MEADOWS PASS SNOTEL	3240	5/01/02	---	33.9	11.0	10.8
BLEWETT PASS#2SNOTEL	4270	5/01/02	2	.6	.1	5.0	MICA CREEK SNOTEL	4750	5/01/02	---	28.0	11.8	15.3
BLUE LAKE	5900	4/29/02	55	24.4	17.0	22.4	MINERAL CREEK	4000	4/30/02	26	10.0	8.3	9.6
BRENDA MINE CAN.	4450	5/01/02	---	6.3	3.9	9.2	MISSEZULA MTN CAN.	5080	4/30/02	21	8.0	2.0	6.5
BROOKMERE CAN.	3000	4/29/02	14	4.3	2.6	4.6	MONASHEE PASS CAN.	4500	5/01/02	26	9.9	7.3	11.9
BROWN TOP AM	6000	4/29/02	186	89.6	31.6	62.1	MORRISSEY RIDGE CAN.	6100	5/01/02	---	41.5	17.9	28.1
BRUSH CREEK TIMBER	5000	4/25/02	11	3.8	3.2	3.6	MORSE LAKE SNOTEL	5400	5/01/02	---	51.5	26.2	56.8
BULL MOUNTAIN	6600	4/25/02	0	.0	.0	2.6	MOSQUITO SNOTEL	4800	5/01/02	---	11.2	5.0	10.9
BUMPING LAKE (NEW)	3400	4/29/02	23	9.7E	.0	10.4	MOSQUITO RDG SNOTEL	5200	5/01/02	---	40.2	18.1	32.2
BUMPING RIDGE SNOTEL	4600	5/01/02	---	34.2	17.6	27.5	MOULTON RESERVOIR	6850	4/26/02	5	1.6E	5.5	3.5
BUNCHGRASS MDWSNOTEL	5000	5/01/02	---	30.3	19.0	28.6	MOUNT CRAG SNOTEL	4050	5/01/02	69	31.2	21.3	27.8
CARM CAN.	4100	4/28/02	1	.2	.0	1.4	MT. KOBAY CAN.	5500	4/28/02	36	12.2	9.3	13.1
CAYUSE PASS	5300	5/01/02	---	***E	50.0	89.1	MOUNT GARDNER SNOTEL	2860	5/01/02	0	20.3	3.1	4.8
CHESSMAN RESERVOIR	6200	4/30/02	7	1.7	.6	1.7	N.F. ELK CR SNOTEL	6250	5/01/02	---	7.4	7.1	8.0
CHEWALAH	4930						NEZ PERCE CMP SNOTEL	5650	5/01/02	---	11.9	7.4	10.8
CHICKEN CREEK	4060	4/29/02	18	7.6	4.8	5.4	NEZ PERCE PASS	6570	4/24/02	35	13.8	10.8	14.2
CHIAUKUM G.S.	2500	4/29/02	0	.0	.0	1.7	NOISY BASIN SNOTEL	6040	5/01/02	---	45.6	31.9	43.8
COMBINATION SNOTEL	5600	5/01/02	---	.2	.8	1.2	NORTH FORK JOCKO	6330	4/29/02	109	51.7	32.6	---
COPPER BOTTOM SNOTEL	5200	5/01/02	---	9.8	4.2	4.5	OLALLIE MDWS SNOTEL	3960	5/01/02	---	74.9	34.9	55.1
COPPER MOUNTAIN	7700	4/27/02	28	10.0	9.6	10.0	OLALLIE MEADOWS	3630	5/01/02	---	67.0E	29.0	36.9
CORRAL PASS SNOTEL	6000	5/01/02	---	46.5	24.8	35.3	OPHIR PARK	7150	4/29/02	33	12.9	12.7	16.0
COTTONWOOD CREEK	6400	4/24/02	15	4.5	8.8	7.3	OYAMA LAKE CAN.	4100	4/30/02	8	2.7	3.7	2.9
COUGAR MTN. SNOTEL	3200	5/01/02	---	26.6	10.0	11.0	PARADISE PARK SNOTEL	5500	5/01/02	---	96.0	51.9	74.8
COX VALLEY	4500	4/28/02	97	44.8	17.4	37.1	PARK CK RIDGE SNOTEL	4600	5/01/02	102	57.5	22.3	39.8
COYTE HILL	4200	4/29/02	7	2.2	.0	2.6	PETERSON MDW SNOTEL	7200	5/01/02	---	8.2	10.6	11.0
DALY CREEK SNOTEL	5780	5/01/02	---	3.1	3.7	5.3	PIGTAIL PEAK SNOTEL	5900	5/01/02	128	65.7	29.4	56.5
DEER PARK	5200	4/27/02	37	19.6	10.9	15.2	PIKE CREEK SNOTEL	5930	5/01/02	---	33.6	16.4	25.9
DEVILS PARK	5900	5/01/02	128	59.8	25.0	44.7	PIPESTONE PASS	7200	4/28/02	7	2.2	4.6	4.8
DISCOVERY BASIN	7050	4/25/02	21	6.2	10.4	9.4	POPE RIDGE SNOTEL	3540	5/01/02	---	6.4	2.4	7.0
DIX HILL	6400	4/29/02	8	2.9	2.4	3.8	POSTILL LAKE CAN.	4200	4/30/02	17	6.1	6.6	5.7
DOMMERIE FLATS	2200	4/30/02	0	.0	.0	---	POTATO HILL SNOTEL	4500	5/01/02	---	30.2	14.8	18.9
EAST FORK R.S.	5400	4/24/02	0	.0	.0	.7	QUARTZ PEAK SNOTEL	4700	5/01/02	---	18.0	9.9	14.9
EAST RAGGED SADDLE	3740	5/01/02	24	12.5	5.9	8.0	RAGGED MOUNTAIN	4200	5/01/02	23	12.2	6.4	5.9
EASY PASS AM	5200	5/01/02	---	***E	46.0	86.9	RAGGED RIDGE	3330	4/30/02	0	.0	.0	---
ELBOW LAKE SNOTEL	3200	5/01/02	88	44.3	17.6	32.5	RAINY PASS SNOTEL	4780	5/01/02	---	49.1	21.8	43.2
EMERY CREEK SNOTEL	4350	5/01/02	---	6.9	6.9	7.4	REX RIVER SNOTEL	1900	5/01/02	139	47.3	15.6	19.0
ENDERBY CAN.	5800	5/02/02	110	51.6	29.1	42.7	ROCKER PEAK SNOTEL	8000	5/01/02	---	12.6	14.0	16.6
ESPERON CK. UP CAN.	5050	4/28/02	48	19.5	9.2	15.2	SADDLE MTN SNOTEL	7900	5/01/02	---	25.2	17.3	26.5
FARRON CAN.	4000	4/29/02	13	5.7	5.4	9.3	SALMON MDWS SNOTEL	4500	5/01/02	1	.2	.0	3.9
FATTY CREEK	5500	4/29/02	57	25.4	19.6	23.4	SASSE RIDGE SNOTEL	4200	5/01/02	---	46.7	18.5	32.3
FISH CREEK	8000	4/26/02	26	8.1	13.6	11.5	SAVAGE PASS SNOTEL	6170	5/01/02	65	28.1	15.9	25.2
FISH LAKE	3370	5/01/02	55	29.0E	9.4	23.1	SAWMILL RIDGE	4700	4/29/02	77	33.2	18.3	32.8
FISH LAKE SNOTEL	3370	5/01/02	65	26.8	12.1	28.8	SCHREIBERS MDW AM	3400	5/01/02	---	64.0E	33.0	53.2
FLATTOP MTN SNOTEL	6300	5/01/02	---	56.9	29.8	46.7	SHEEP CANYON SNOTEL	4050	5/01/02	---	44.9	62.8	92.0
FLEECER RIDGE	7500	4/25/02	27	8.2	5.6	8.7	SHERWIN SNOTEL	3200	5/01/02	---	6.0	.0	3.3
FREEZEOUT CK. TRAIL	3500	4/30/02	21	9.7	.9	6.4	SILVER STAR MTN CAN.	5600	4/28/02	82	36.1	20.7	28.9
FROHNER MDWS SNOTEL	6480	5/01/02	---	6.5	6.6	6.5	SKALKAHO SNOTEL	7260	5/01/02	---	24.8	15.4	25.4
GRASS MOUNTAIN #2	2900	4/29/02	18	8.0	.0	---	SKITWISH RIDGE	5110	4/30/02	75	36.9	16.7	25.8
GRAVE CRK SNOTEL	4300	5/01/02	---	9.7	6.6	7.0	SKOOKUM CREEK SNOTEL	3920	5/01/02	---	50.3	12.1	24.6
GREEN LAKE SNOTEL	6000	5/01/02	58	25.1	13.8	24.6	SLIDE ROCK MOUNTAIN	7100	4/28/02	41	13.1	12.4	15.7
GREYBACK RES CAN.	4700	4/30/02	18	5.7	7.4	7.5	SOURDOUGH GULCH SNTL	400 0	5/01/02	0	.0	.0	---
GRIFFIN CR DIVIDE	5150	4/26/02	12	5.0	1.7	4.9	SPENCER MDW SNOTEL	3400	5/01/02	---	42.3	13.6	21.8
GROUSE CAMP SNOTEL	5380	5/01/02	---	17.9	11.0	11.1	SPIRIT LAKE SNOTEL	3100	5/01/02	---	.0	.0	---
HAMILTON HILL CAN.	4550	5/01/02	33	13.8	5.3	11.9	SPOTTED BEAR MTN.	7000	4/29/02	26	10.8	12.0	7.6
HAND CREEK SNOTEL	5030	5/01/02	---	3.9	7.2	6.8	SOURDOUGH GULCH SNTL	400 0	5/01/02	0	.0	.0	---
HARTS PASS SNOTEL	6500	5/01/02	---	53.8	23.3	47.7	STAHL PEAK SNOTEL	6030	5/01/02	---	47.8	21.4	37.1
HELL ROARING DIVIDE	5770	4/29/02	66	28.8	19.4	29.0	STAMPEDE PASS SNOTEL	3860	5/01/02	---	59.4	26.8	42.7
HERRIG JUNCTION	4850	4/29/02	62	29.2	12.9	22.9	STEMPLE PASS	6600	4/30/02	29	8.2	5.7	9.3
HIGH RIDGE SNOTEL	4980	5/01/02	---	18.8	9.1	15.9	STEVENS PASS SNOTEL	4070	5/01/02	---	43.1	20.3	35.2
HOLBROOK	4530	4/29/02	1	.3E	1.5	1.2	STEVENS PASS SAND SD	3700	4/29/02	74	34.2	16.5	27.5
HOODOO BASIN SNOTEL	6050	5/01/02	---	57.7	25.3	45.7	STORM LAKE	7780	4/25/02	38	11.5	13.7	14.3
HUMBOLDT GLCH SNOTEL	4250	5/01/02	---	12.9	6.3	5.5	STRYKER BASIN	6180	4/29/02	90	38.4	20.2	32.6
HURRICANE	4500	4/28/02	49	20.8	3.8	17.9	SUMMERLAND RES CAN.	4200	4/29/02	8	3.4	.5	5.6
INTERGAARD	6450	4/29/02	9	3.0	6.5	6.1	SUNSET SNOTEL	5540	5/01/02	---	25.5	15.5	28.7
ISINTOK LAKE CAN.	5100	4/30/02	16	4.8	3.7	5.6	SURPRISE LKS SNOTEL	4250	5/01/02	---	54.5	29.9	41.8
JUNE LAKE SNOTEL	3200	5/01/02	---	58.8	22.1	29.6	TEN MILE LOWER	6600	5/03/02	17	3.6	4.0	4.5
KLESLIKWA CAN.	3450	4/29/02	31	14.0	.0	6.9	TEN MILE MIDDLE	6800	5/03/02	30	8.2	9.5	11.2
KRAFT CREEK SNOTEL	4750	5/01/02	---	8.9	7.2	5.2	THUNDER BASIN	4200	5/01/02	---	25.5E	12.4	21.2
LESTER CREEK	3100	4/29/02	64	29.8	---	16.6	TINKHAM CREEK SNOTEL	3000	5/01/02	---	35.0	17.1	20.0
LIGHTNING LAKE CAN.	3700	5/02/02	24	9.9	4.8	10.0	TOUCHET SNOTEL	5530	5/01/02	68	33.1	20.3	26.2
LOGAN CREEK	4300	4/25/02	8	2.2	5.0	1.7	TRINKUS LAKE	6100	4/29/02	95	45.2	34.5	40.8

SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
TROUGH #2	SNOTEL	5310	5/01/02	3	2.4	5.2	4.3
TROUT CREEK	CAN.	5650	4/25/02	14	5.3	.0	4.3
TRUMAN CREEK		4060	4/30/02	0	.0	.0	.1
TUNNEL AVENUE		2450	4/30/02	42	19.4E	7.9	12.0
TV MOUNTAIN		6800	4/29/02	48	17.9	13.2	17.4
TWELVEMILE SNOTEL		5600	5/01/02	---	10.3	2.0	8.8
TWIN CAMP		4100	4/29/02	47	19.7	9.7	20.3
TWIN CREEKS		3580	4/29/02	10	4.5	6.8	1.7
TWIN LAKES SNOTEL		6400	5/01/02	---	43.2	23.4	38.5

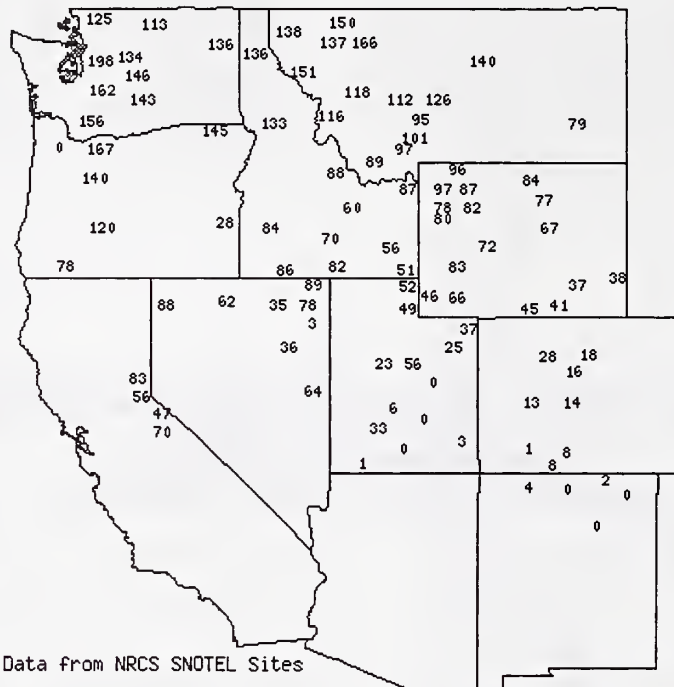
SNOW COURSE		ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1971-00
TWIN SPIRIT DIVIDE		3480	5/01/02	8	4.2	.0	3.0
UPPER HOLLAND LAKE		6200	4/29/02	89	41.4	26.5	33.5
UPPER WHEELER SNOTEL		4400	5/01/02	---	7.9	7.7	6.3
VASEUX CREEK CAN.		4250	4/30/02	0	.0	.8	2.7
WARM SPRINGS SNOTEL		7800	5/01/02	---	20.2	17.7	23.7
WATSON LAKES AM		4500	5/01/02	---	73.0E	37.6	64.0
WEASEL DIVIDE		5450	5/02/02	79	38.2	16.4	32.7
WELLS CREEK SNOTEL		4200	5/01/02	74	34.7	16.8	---
WHITE PASS ES SNOTEL		4500	5/01/02	---	22.7	11.1	21.4
WHITE ROCKS MTN CAN.		7200	4/25/02	65	26.2	12.6	20.8

May 1, 2002 - Snowpack and Precipitation Conditions at a Glance

(Water Year = October 1, 2001 - Current Date)



Basin Average Snow Water Content. (% of Average.)



Report Date:

MAY 9 , 2002

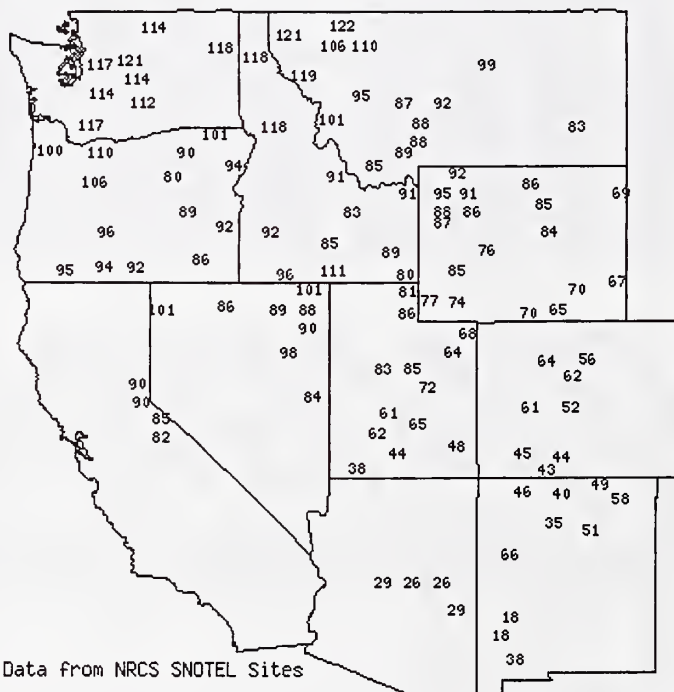
Provisional Data
Based on Mountain Data from NRCS SNOTEL Sites

Data provided by
Water and Climate Center
National Resource Conservation Service
Portland, Oregon

Western Regional Climate Center
Desert Research Institute
Reno, Nevada

Basin Average Precipitation. (% of Average.)

OCTOBER 1 , 2001 thru MAY 9 , 2002



Report Date:

MAY 9 , 2002

Provisional Data
Based on Mountain Data from NRCS SNOTEL Sites

Data provided by
Water and Climate Center
National Resource Conservation Service
Portland, Oregon

Western Regional Climate Center
Desert Research Institute
Reno, Nevada



Natural Resources Conservation Service

Washington State
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Helpful Internet Addresses

NRCS Snow Survey and Climate Services Homepages

Washington:
<http://www.wa.nrcs.usda.gov/snow/snow.htm>

Oregon:
<http://www.or.nrcs.usda.gov/snow/snow.htm>

Idaho:
<http://idsnow.id.nrcs.usda.gov>

National Water and Climate Center (NWCC):
<http://www.wcc.nrcs.usda.gov>

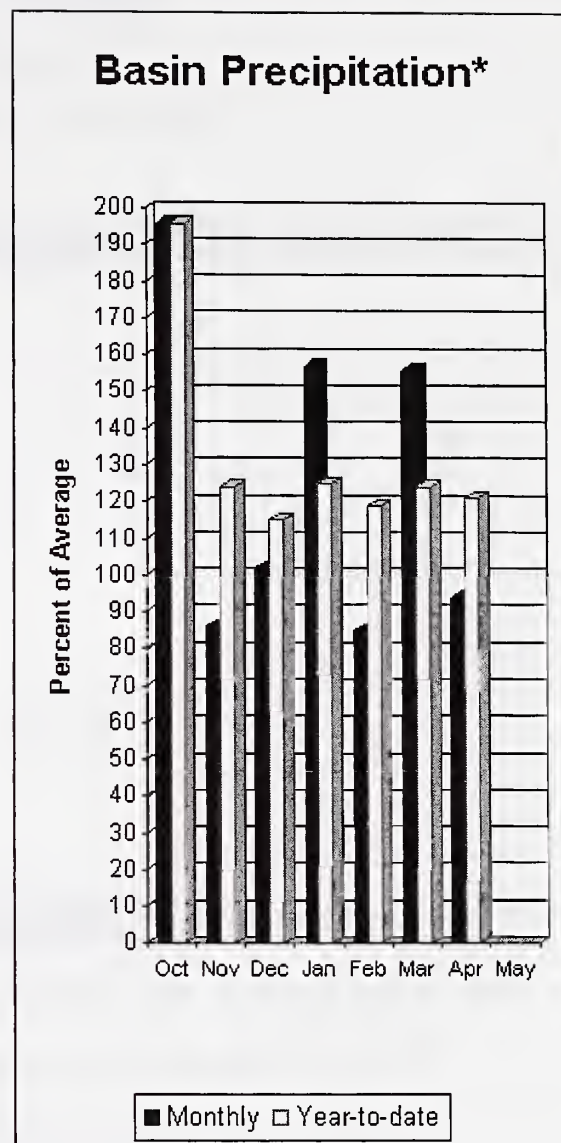
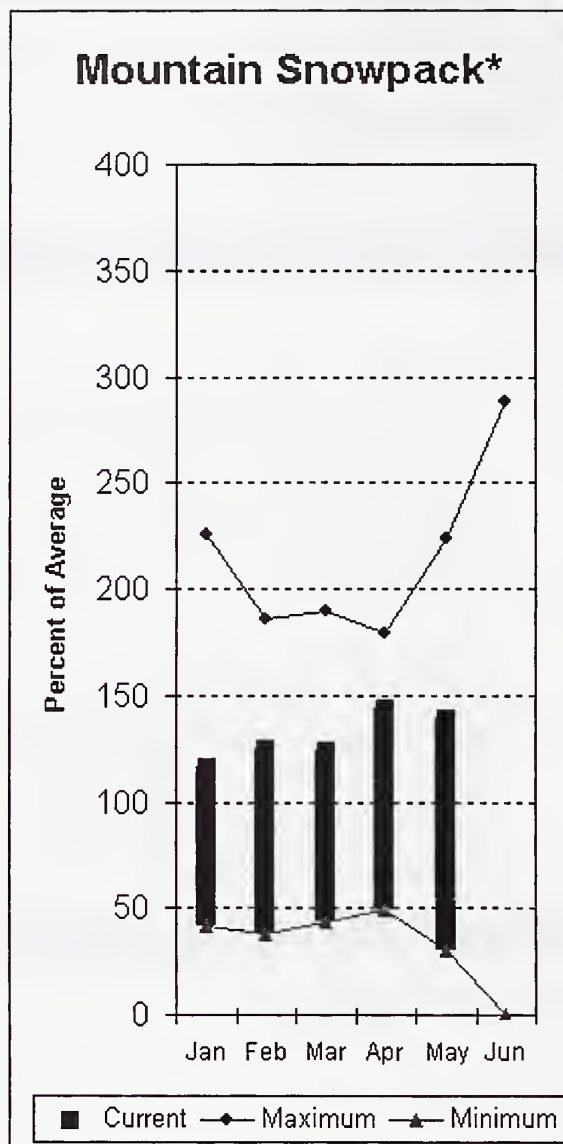
NWCC Anonymous FTP Server:
<ftp.wcc.nrcs.usda.gov>

USDA-NRCS Agency Homepages

Washington:
<http://www.wa.nrcs.usda.gov/nrcs>

NRCS National:
<http://www.ftw.nrcs.usda.gov>

Spokane River Basin



*Based on selected stations

The May 1 forecasts for summer runoff within the Spokane River Basin are 136% of average at Post Falls and 135% at Long Lake. The forecast is based on a basin snowpack that is 139% of average and precipitation that is 121% of average for the water year. Precipitation for April was near normal at 94% of average. Streamflow on the Spokane River at Long Lake, was 142% of average for April. May 1 storage in Coeur d'Alene Lake, was 274,000-acre feet, 110% of average and 115% of capacity. Snowpack at Quartz Peak SNOTEL site was 121% of average with 18 inches of water content. Average temperatures in the Spokane Basin were 1 degrees below normal for April and near average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Spokane River Basin

SPOKANE RIVER BASIN Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						
		90%		50% (Most Probable)		30%		30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SPOKANE near Post Falls (2)	MAY-SEP	2002	2245	2410	136	2575	2818	1771
	MAY-JUL	1908	2141	2300	138	2459	2692	1673
SPOKANE at Long Lake (2)	MAY-JUL	2156	2423	2604	137	2785	3052	1905
	MAY-SEP	2395	2676	2867	135	3058	3339	2126

SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of April					SPOKANE RIVER BASIN Watershed Snowpack Analysis - May 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
COEUR D'ALENE	238.5	273.5	209.5	249.7	SPOKANE RIVER	11	227	137
					NEWMAN LAKE	1	182	121

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

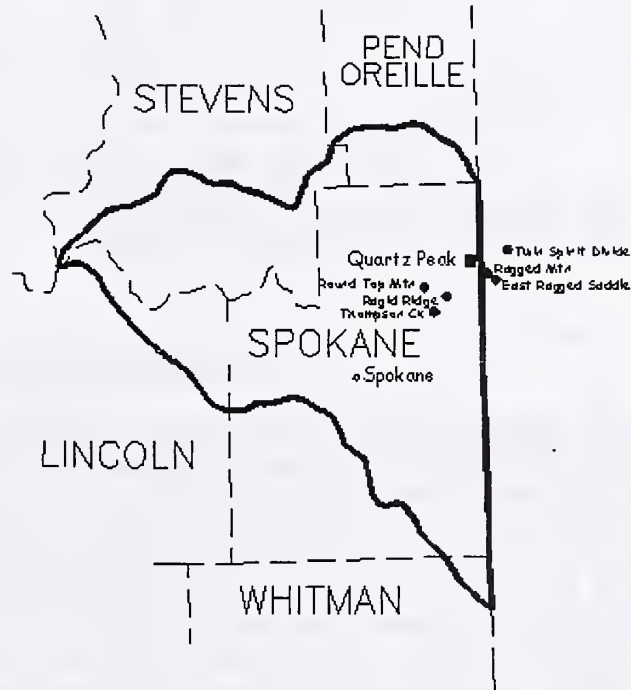
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

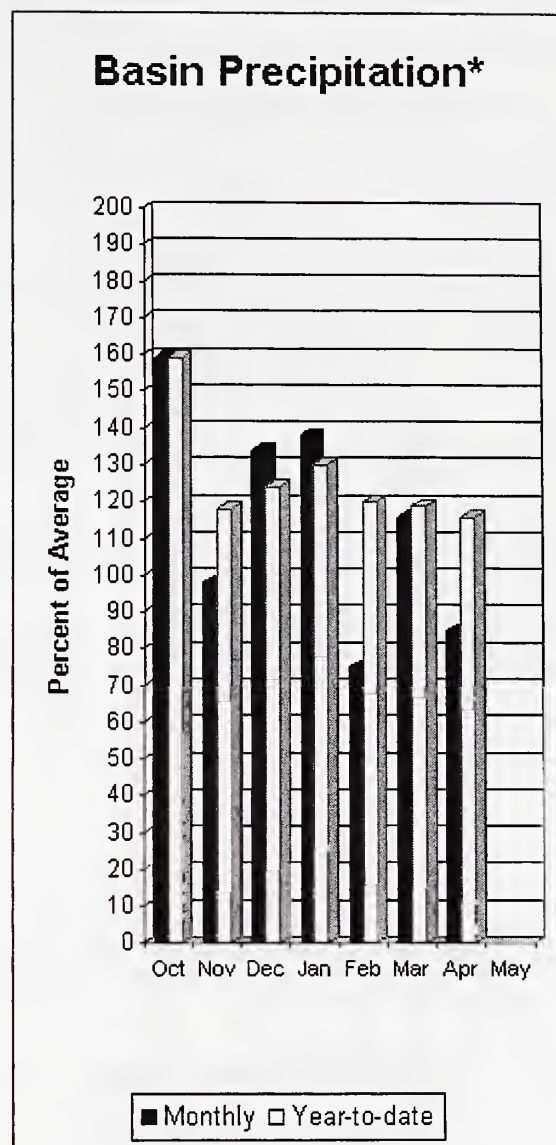
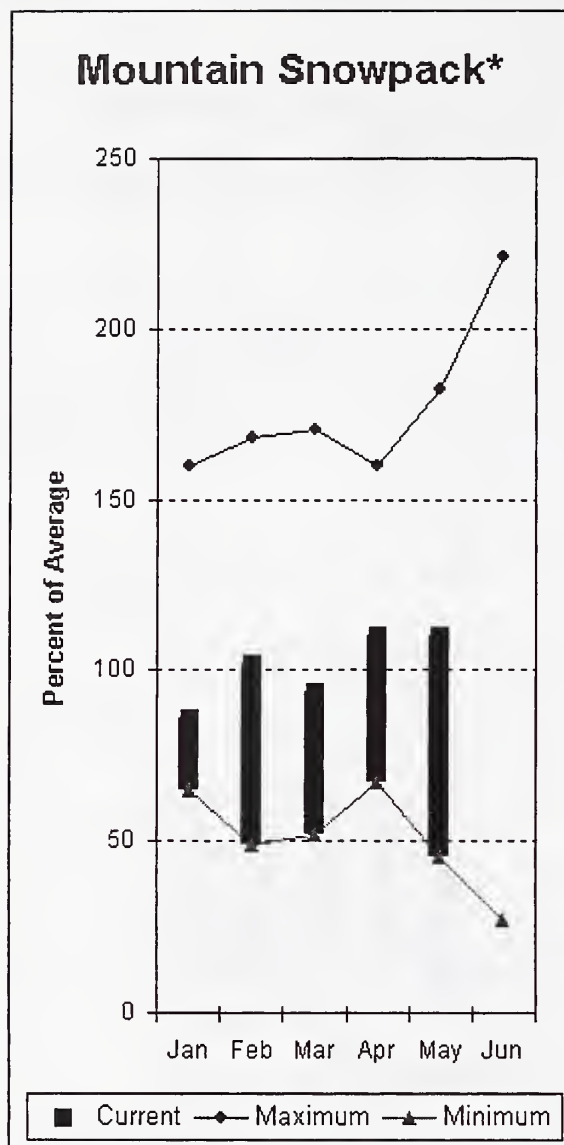
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Spokane River Basin
Percent of Average
May 1, 2002

Snowpack - 139%
Precipitation - 121%
Reservoir Capacity - 110%



Colville - Pend Oreille River Basins



*Based on selected stations

The May – September average forecast for the Kettle River streamflow is 104%, Colville at Kettle Falls is 95% and Priest River near the town of Priest River is 102%. April streamflow was 103% of average on the Pend Oreille River, 91% on the Columbia at the International Boundary and 83% on the Kettle River. May 1 snow cover was 110% of average in the Pend Oreille Basin and 89% in the Kettle River Basin. Bunchgrass Meadows SNOTEL site had 30.3 inches of snow water on the snow pillow. Normally, Bunchgrass would have 28.6 inches on May 1. Precipitation during April was 85% of average, bringing the year-to-date precipitation to 116% of average. Reservoir storage in Roosevelt Lake was reported to be 95% of average and 39% of capacity on May 1. Average temperatures were 1 degrees below normal for April and near average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Colville - Pend Oreille River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
PEND OREILLE Lake Inflow (2)	MAY-JUL	9591	10489	11100	105	11711	12609	10600
	MAY-SEP	10525	11522	12200	103	12878	13875	11800
PRIEST near Priest River (1,2)	MAY-JUL	513	590	625	102	660	737	616
	MAY-SEP	546	638	680	102	722	814	670
PEND OREILLE bl Box Canyon (2)	MAY-JUL	9020	10139	10900	102	11661	12780	10700
	MAY-SEP	10120	11358	12200	103	13042	14280	11900
CHAMOKANE CREEK near Long Lake	MAY-AUG	6.1	8.2	9.7	95	11.2	13.3	10.2
	JUL-AUG	2.89	3.14	3.30	94	3.46	3.71	3.51
COLVILLE at Kettle Falls	MAY-SEP	61	77	87	95	98	113	92
	MAY-JUL	53	66	75	95	84	97	79
KETTLE near Laurier	MAY-SEP	1442	1602	1710	104	1818	1978	1641
	MAY-JUL	1370	1507	1600	104	1693	1830	1542
COLUMBIA at Birchbank (1,2)	MAY-JUL	27232	29479	30500	95	31521	33768	32090
	MAY-SEP	34736	37599	38900	95	40201	43064	40760
COLUMBIA at Grand Coulee Dm (1,2)	MAY-SEP	51323	55502	57400	99	59298	63477	57921
	MAY-JUL	42313	45742	47300	99	48858	52287	47614

COLVILLE - PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
ROOSEVELT	5232.0	1684.6	622.3	1873.7
BANKS		NO REPORT		

COLVILLE - PEND OREILLE RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
COLVILLE RIVER	0	0	0
PEND OREILLE RIVER	87	150	110
KETTLE RIVER	5	136	89

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

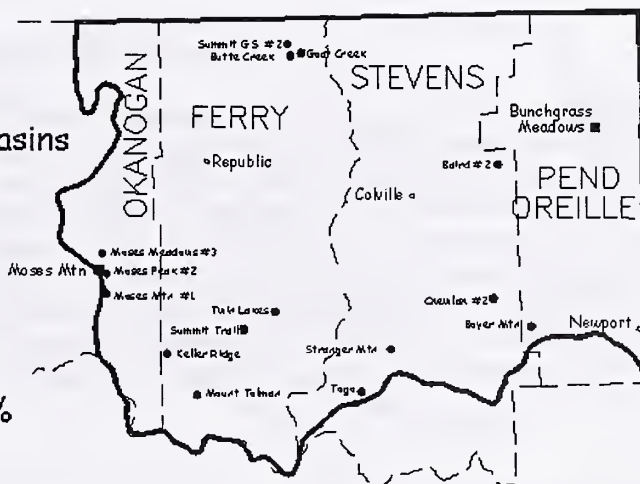
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

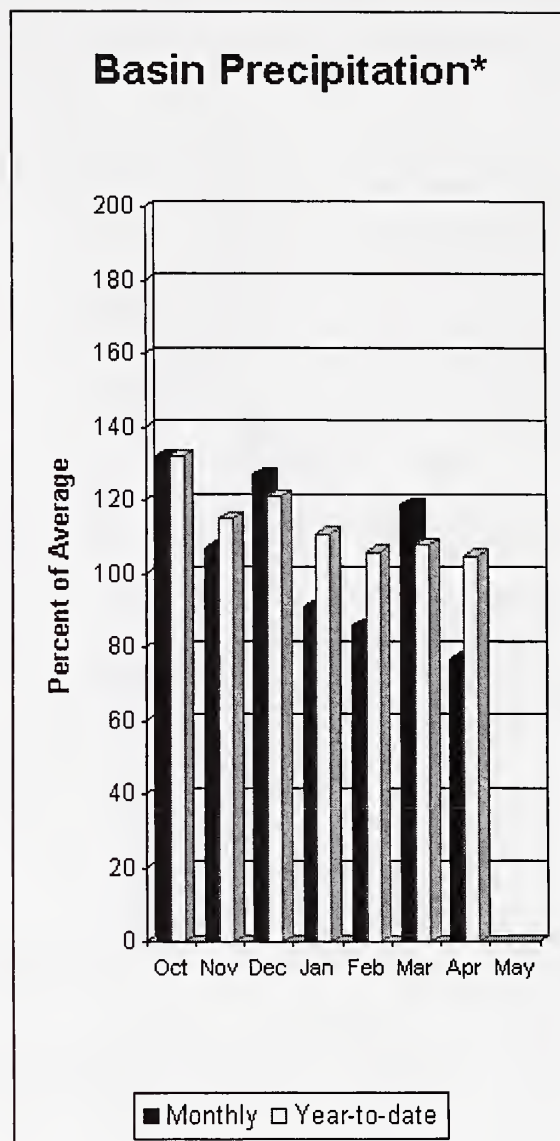
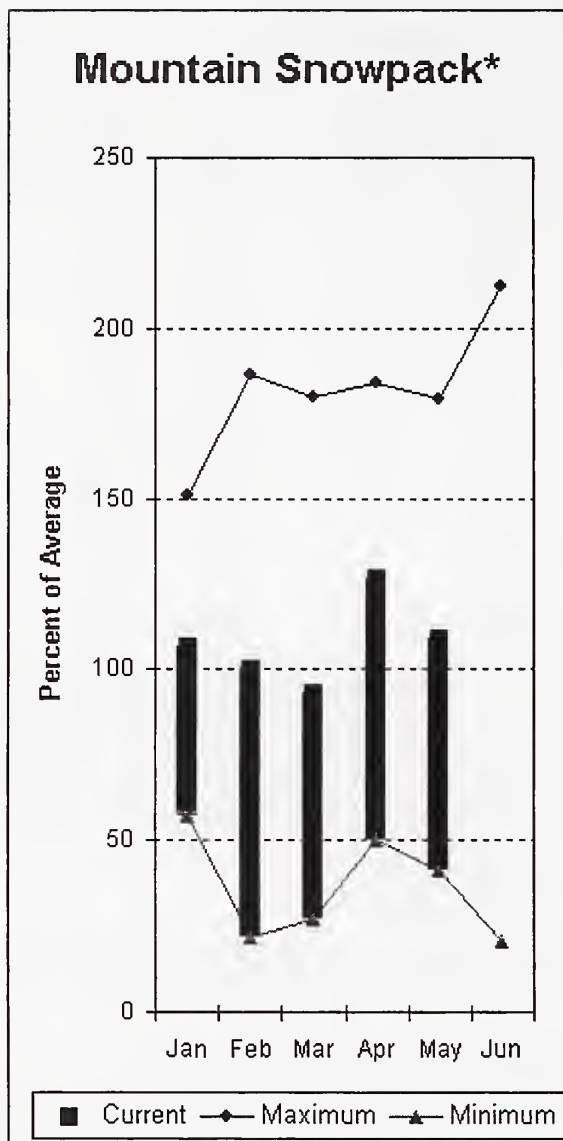
(2) - The value is natural flow - actual flow may be affected by upstream water management.

Colville-Pend Oreille River Basins
Percent of Average
May 1, 2002

Snowpack - 110%
Precipitation - 116%
Reservoir Capacity - 95%



Okanogan - Methow River Basins



*Based on selected stations

Summer runoff average forecast for the Okanogan River is 102%, Similkameen River is 101%, Methow River is 109% and Salmon Creek is 90%. May 1 snow cover on the Okanogan was 107% of average and Methow was 109%. Snowpack above Conconully Lake was only 5% of average. April precipitation in the Okanogan-Methow was 77% of average, with precipitation for the water year at 105% of average. April streamflow for the Methow River was 84% of average, 91% for the Okanogan River and 97% for the Similkameen. Snow-water content at Harts Pass SNOTEL was 53.8 inches, average for this site is 47.7 inches on May 1. Combined storage in the Conconully reservoirs was 8,000-acre feet, which is 33% of capacity and 41% of the May 1 average. Temperatures were 1 degree below normal for the past month and 1-2 degrees above average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Okanogan - Methow River Basins

OKANOGAN - METHOW RIVER BASINS Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
SIMILKAMEEN near Nighthawk (1)	MAY-JUL	960	1153	1240	102	1327	1520	1220
	MAY-SEP	1053	1250	1340	101	1430	1627	1325
OKANOGAN near Tonasket (1)	MAY-JUL	961	1297	1450	103	1603	1939	1403
	MAY-SEP	1088	1454	1620	102	1786	2152	1589
SALMON CREEK near Conconully	MAY-JUL	5.7	11.7	15.7	90	19.7	26	17.4
	MAY-SEP	6.0	12.2	16.5	90	21	27	18.3
BEAVER CREEK below SF near Twisp	MAY-SEP	7.8	10.2	11.8	105	13.4	15.8	11.2
	MAY-JUL	6.8	9.1	10.7	106	12.3	14.6	10.1
METHOW RIVER near Pateros	MAY-SEP	853	917	960	109	1003	1067	882
	MAY-JUL	780	837	875	108	913	970	808

OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
SALMON LAKE	10.5	3.7	6.9	8.9
CONCONULLY RESERVOIR	13.0	4.1	6.5	10.1

OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
OKANOGAN RIVER	20	183	107
OMAK CREEK	1	224	103
SANPOIL RIVER	0	0	0
SIMILKAMEEN RIVER	4	214	116
TOATS COULEE CREEK	0	0	0
CONCONULLY LAKE	1	0	5
METHOW RIVER	3	229	109

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

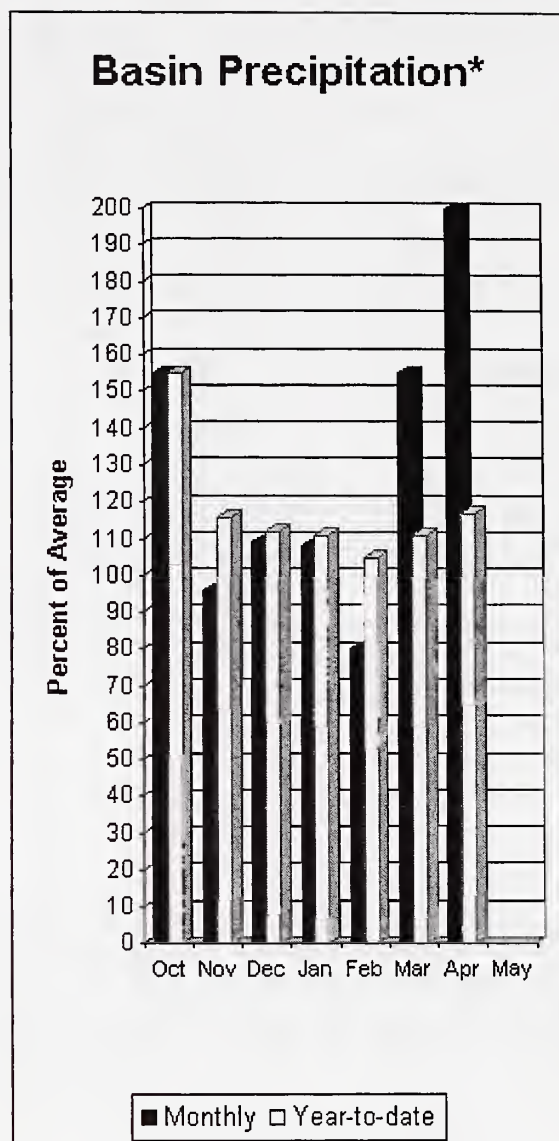
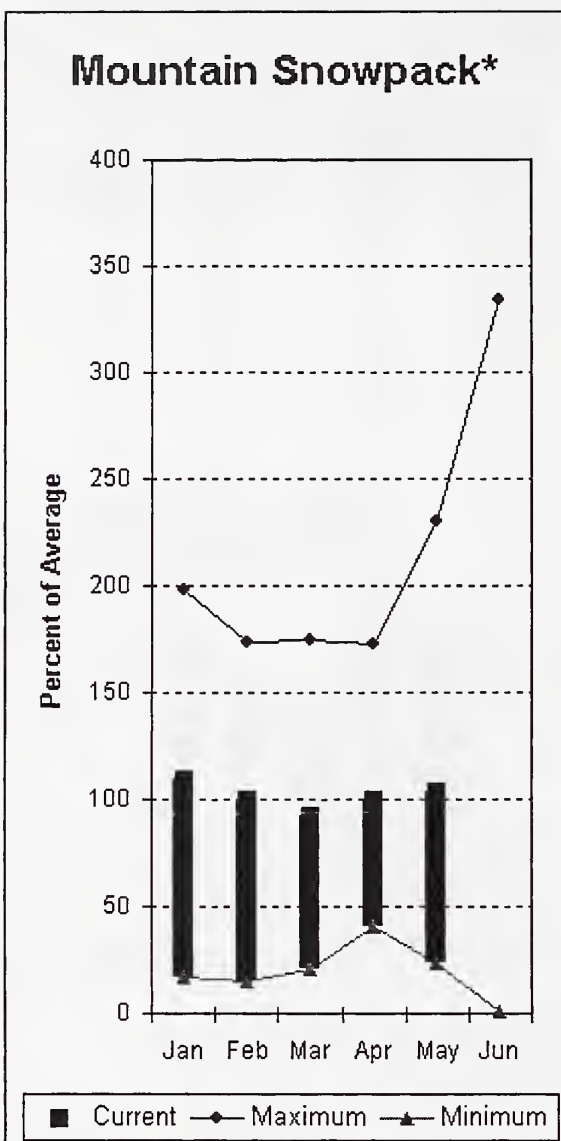
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(2) - The value is natural flow - actual flow may be affected by upstream water management.

Okanogan-Methow River Basins
Percent of Average
May 1, 2002

Snowpack - 109%
Precipitation - 105%
Reservoir Capacity - 41%



Wenatchee - Chelan River Basins



*Based on selected stations

Precipitation during April was 204% of average in the basin and 117% for the year-to-date. Runoff for Entiat River is forecast to be 96% of average for the summer. The May-September average forecast for Chelan River is 113%, Wenatchee River at Plain is 111% and Stehekin is 112%. Icicle, Stemilt, and Squilchuck creeks are all expected to fall into the same forecast range with near to slightly above normal flows. April average streamflows on the Chelan River were 103% and on the Wenatchee River 113%. May 1 snowpack in the Wenatchee River Basin was 118% of average; the Chelan, 130%; the Entiat, 91%; Stemilt Creek, 125%; and Colockum Creek, 56%. Reservoir storage in Lake Chelan was 196,000-acre feet, 74% of May 1 average and 29% of capacity. Lyman Lake SNOTEL had the most snow water with 88.5 inches of water. This site normally has 67.2 inches on May 1. Temperatures were 1 degrees below normal for April and 1-2 degrees above normal for the water year.

For more information contact your local Natural Resources Conservation Service office.

Wenatchee - Chelan River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
CHELAN RIVER near Chelan	MAY-SEP	1079	1145	1190	113	1235	1301	1050
	MAY-JUL	937	998	1040	114	1082	1143	911
STEHEKIN near STEHEKIN	MAY-SEP	757	803	835	112	867	913	746
	MAY-JUL	618	664	695	113	726	772	618
ENTIAT RIVER near Ardenvoir	MAY-SEP	186	199	208	96	217	230	217
	MAY-JUL	165	178	187	96	196	209	195
WENATCHEE at Plain	MAY-SEP	1025	1099	1150	111	1201	1275	1035
	MAY-JUL	923	981	1020	112	1059	1117	915
WENATCHEE R. at Peshastin	MAY-SEP	1042	1333	1530	109	1727	2018	1407
	MAY-JUL	935	1194	1370	109	1546	1805	1254
STEMILT nr Wenatchee (miners in)	MAY-SEP	100	127	145	105	163	190	138
ICICLE CREEK near Leavenworth	MAY-SEP	343	353	360	118	367	377	305
	MAY-JUL	311	325	335	120	345	359	279
COLUMBIA R. b1 Rock Island Dam (2)	MAY-SEP	56597	60826	63700	101	66574	70803	62987
	MAY-JUL	47121	50621	53000	102	55379	58879	52239

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
CHELAN LAKE	676.1	196.2	403.6	265.6

WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
CHELAN LAKE BASIN	3	242	130
ENTIAT RIVER	1	267	91
WENATCHEE RIVER	10	210	118
SQUILCHUCK CREEK	0	0	0
STEMILT CREEK	1	103	125
COLOCKUM CREEK	1	46	56

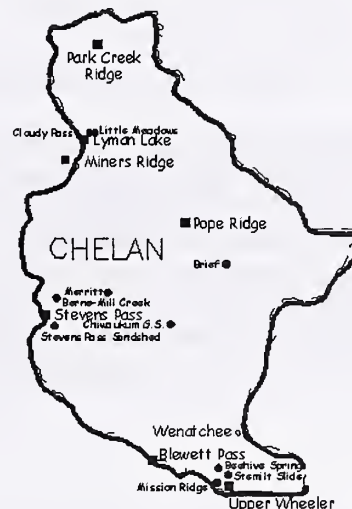
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

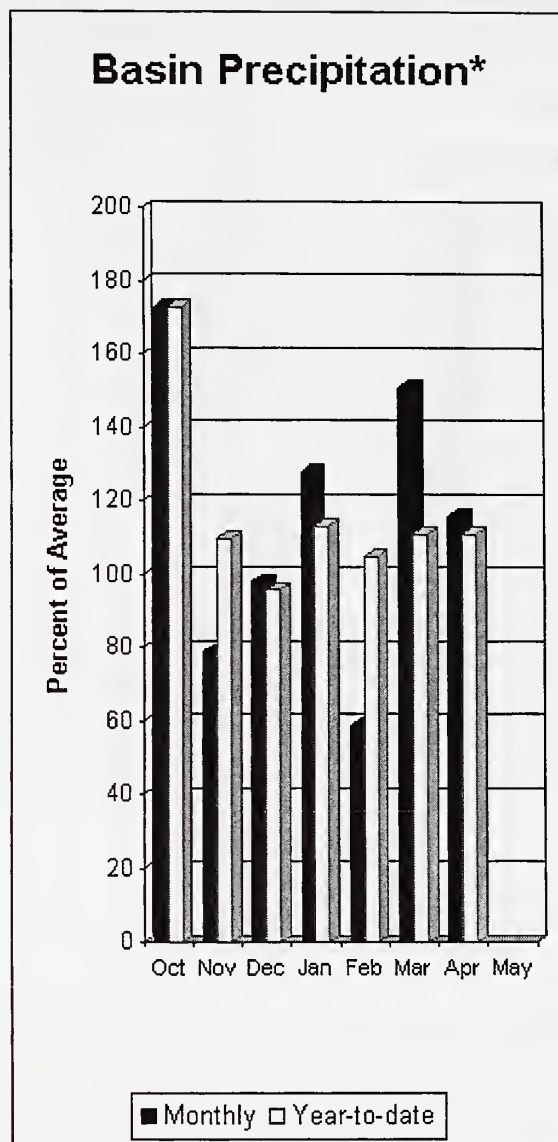
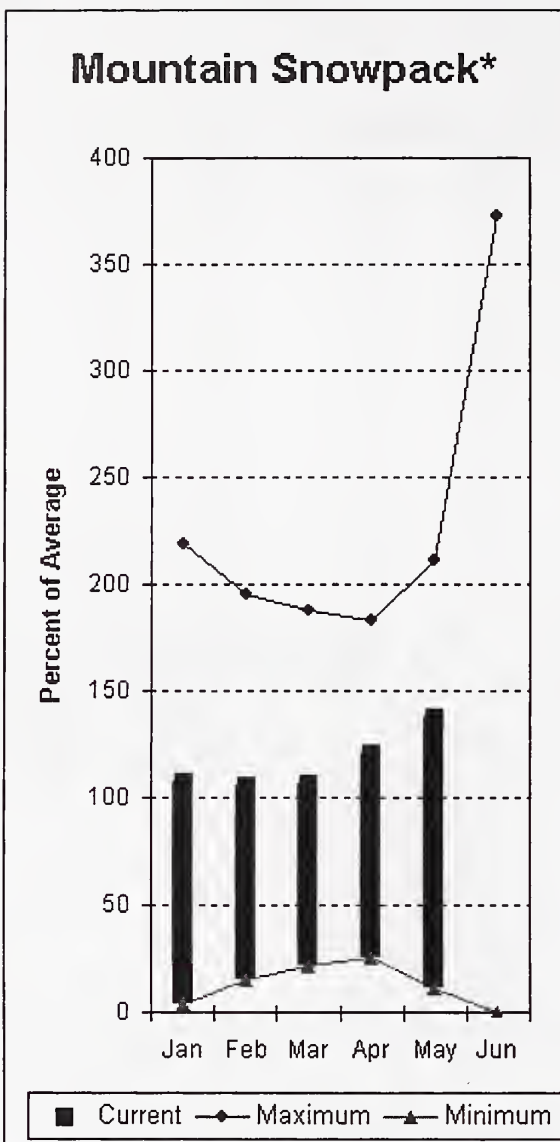
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Wenatchee-Chelan River Basins Percent of Average May 1, 2002

Snowpack - 104%
 Precipitation - 117%
 Reservoir Capacity - 74%



Upper Yakima River Basin



*Based on selected stations

May 1 reservoir storage for the Upper Yakima reservoirs was 547,000-acre feet, 88% of average. Forecasts for the Yakima River at Cle Elum are 116% of average and the Teanaway River near Cle Elum is at 125%. Lake inflows are all forecasted to be near or above average this summer. April streamflows within the basin were Yakima near Cle Elum at 125% and Cle Elum River near Roslyn at 118%. May 1 snowpack was 138% based upon 9 snow courses and SNOTEL readings within the Upper Yakima Basin. Precipitation was 116% of average for April and 111% year-to-date for water. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Upper Yakima River Basin

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding *		30% (1000AF)	10% (1000AF)	
KEECHELUS LAKE INFLOW	MAY-JUL	92	102	109	119	116	126	92
	MAY-SEP	98	111	119	116	127	140	103
KACHESS LAKE INFLOW	MAY-JUL	92	98	103	123	108	115	84
	MAY-SEP	96	105	110	120	116	124	92
CLE ELUM LAKE INFLOW	MAY-JUL	339	357	370	111	383	401	332
	MAY-SEP	382	405	420	113	435	458	373
YAKIMA at Cle Elum	MAY-JUL	671	712	740	117	768	809	634
	MAY-SEP	738	790	825	116	860	912	714
TEANAWAY near Cle Elum	MAY-JUL	100	109	115	126	121	130	91
	MAY-SEP	104	113	119	125	125	134	95

UPPER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of April

UPPER YAKIMA RIVER BASIN Watershed Snowpack Analysis - May 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	122.4	53.6	125.6	UPPER YAKIMA RIVER	9	228	138
KACHESS	239.0	148.6	151.6	188.3				
CLE ELUM	436.9	276.1	142.4	307.0				

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

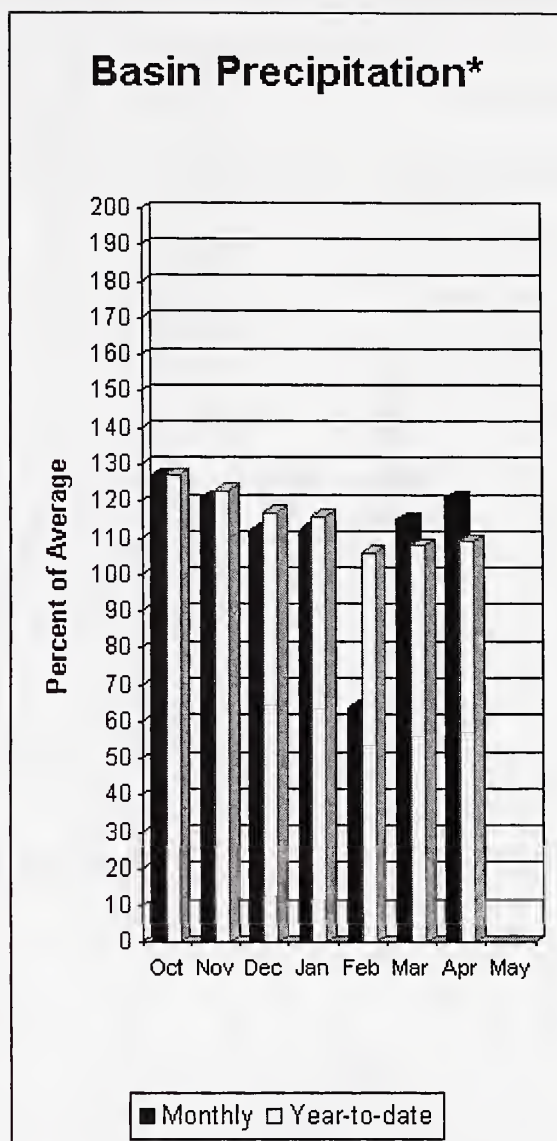
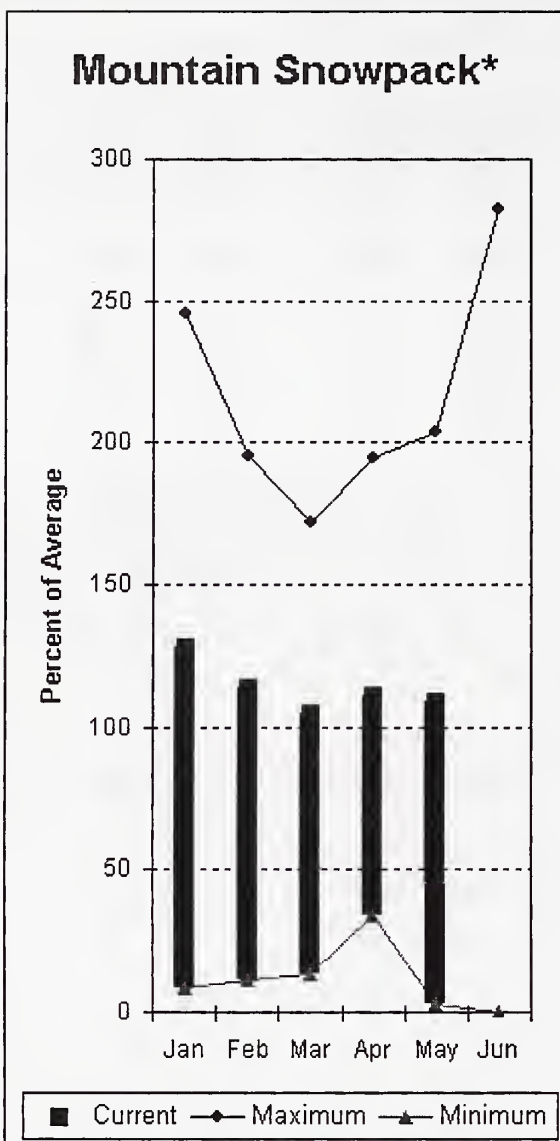
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.



Upper Yakima River Basin Percent of Average May 1, 2002

Snowpack - 138%
 Precipitation - 111%
 Reservoir Capacity - 88%

Lower Yakima River Basin



*Based on selected stations

April average streamflows within the basin were: Yakima River near Parker, 126%; Naches River near Naches, 131%; and Yakima River at Kiona, 88%. May 1 reservoir storage for Bumping and Rimrock reservoirs was 184,000-acre feet, 109% of average. Forecast average flows for Yakima River near Parker are 116%; American River near Nile, 110%; Ahtanum Creek, 108% and Klickitat River near Glenwood, 113%. May 1 snowpack was 109% based upon 7 snow courses and SNOTEL readings within the Lower Yakima Basin. Precipitation was 121% of average for April and 109% year-to-date for water. Temperatures were near normal for the month and 1 degree above average for the water year. Volume forecasts for Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

For more information contact your local Natural Resources Conservation Service office.

Lower Yakima River Basin

Streamflow Forecasts - May 1, 2002

		<<----- Drier ----- Future Conditions ----- Wetter ----->>							
Forecast Point	Forecast Period	-----		Chance Of Exceeding *		-----		30-Yr Avg. (1000AF)	
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
BUMPING LAKE INFLOW	MAY-SEP	111	122	129	114	136	147	113	
	MAY-JUL	102	110	116	113	122	130	103	
AMERICAN RIVER near Nile	MAY-SEP	95	104	110	110	116	125	100	
	MAY-JUL	86	95	100	111	106	114	90	
RIMROCK LAKE INFLOW	MAY-SEP	199	214	225	109	236	251	207	
	MAY-JUL	166	177	185	110	193	204	168	
NACHES near Naches	MAY-SEP	641	694	730	108	766	819	679	
	MAY-JUL	582	625	655	109	685	728	599	
AHTANUM CREEK nr Tampico (2)	MAY-SEP	33	38	41	108	44	50	38	
	MAY-JUL	29	34	37	108	40	44	34	
YAKIMA near Parker	MAY-SEP	1547	1650	1720	116	1790	1893	1479	
	MAY-JUL	1357	1449	1512	117	1575	1675	1292	
KLICKITAT near Glenwood	MAY-JUN	101	109	115	113	121	129	102	
	MAY-SEP	134	145	153	113	161	172	135	

LOWER YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
BUMPING LAKE	33.7	26.2	11.6	19.6
RIMROCK	198.0	157.4	121.8	149.4

LOWER YAKIMA RIVER BASIN Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
BUMPING LAKE			
RIMROCK			

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

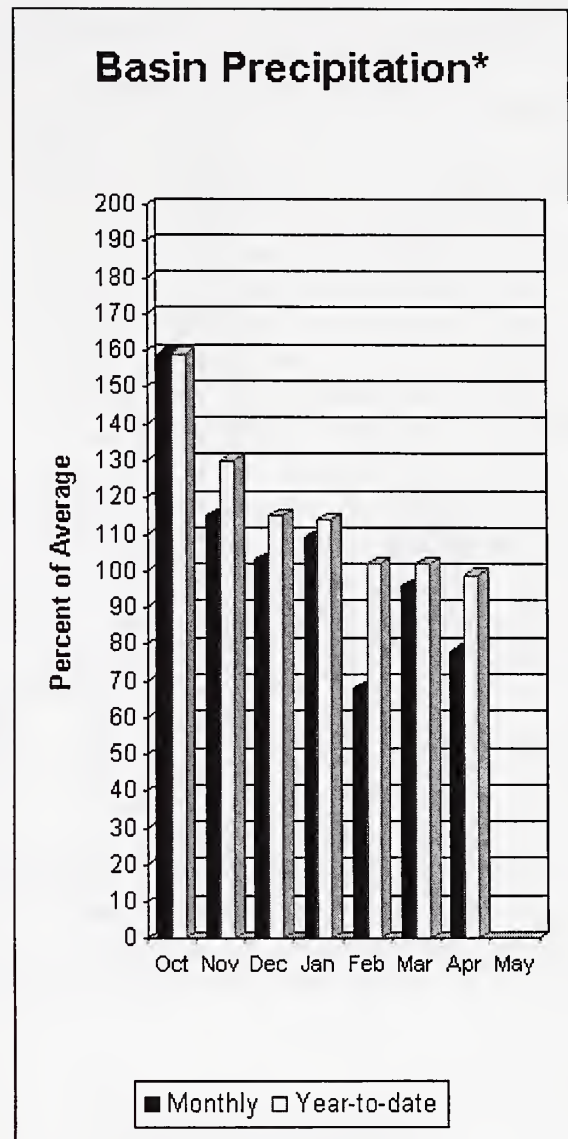
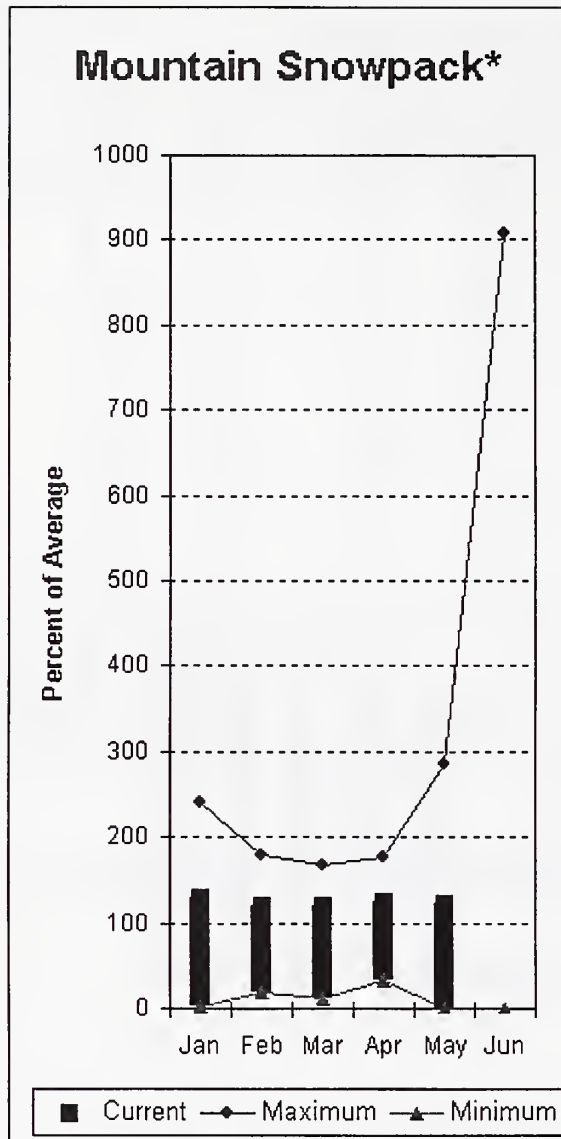
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Lower Yakima River Basin
Percent of Average
May 1, 2002

Snowpack - 109%
Precipitation - 109%
Reservoir Capacity - 109%

Walla Walla River Basin



*Based on selected stations

April precipitation was 78% of average, maintaining the year-to-date precipitation at 99% of average. Snowpack in the basin was 123% of average. Touchet SNOTEL site near Dayton had 33.1 inches of snow water. The May 1 average for the site is 26.2 inches. Streamflow forecasts are 110% of average for Mill Creek and 104% for the SF Walla Walla near Milton-Freewater. April streamflow was 206% of average for the Walla Walla River. Average temperatures were 1 degrees below normal for April and have remained near normal throughout the water year.

For more information contact your local Natural Resources Conservation Service office.

Walla Walla River Basin

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
MILL CREEK at Walla Walla	MAY-SEP	6.72	8.61	9.90	110	11.19	13.08	9.00
	MAY-JUL	6.63	8.52	9.80	110	11.08	12.97	8.90
SF WALLA WALLA near Milton-Freewater	MAY-JUL	32	36	39	105	42	46	37
	MAY-SEP	44	49	52	104	55	60	50

WALLA WALLA RIVER BASIN Reservoir Storage (1000 AF) - End of April					WALLA WALLA RIVER BASIN Watershed Snowpack Analysis - May 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					WALLA WALLA RIVER	2	177	123

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

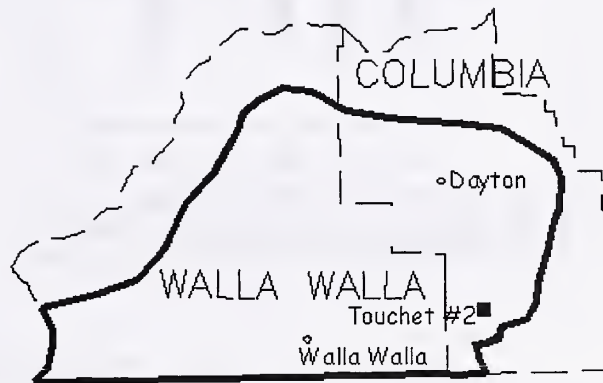
The average is computed for the 1971-2000 base period.

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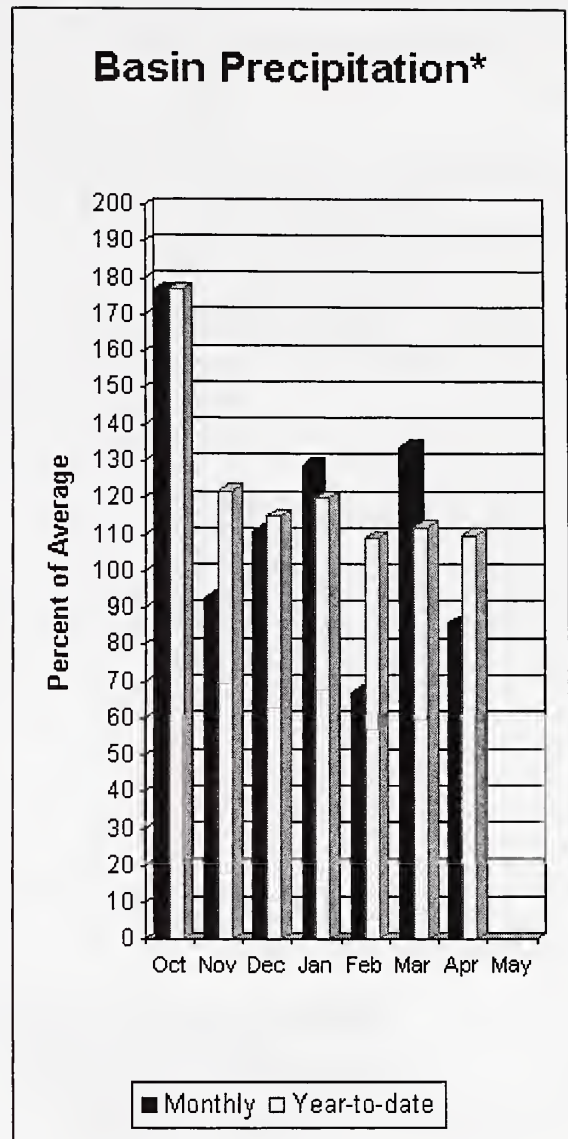
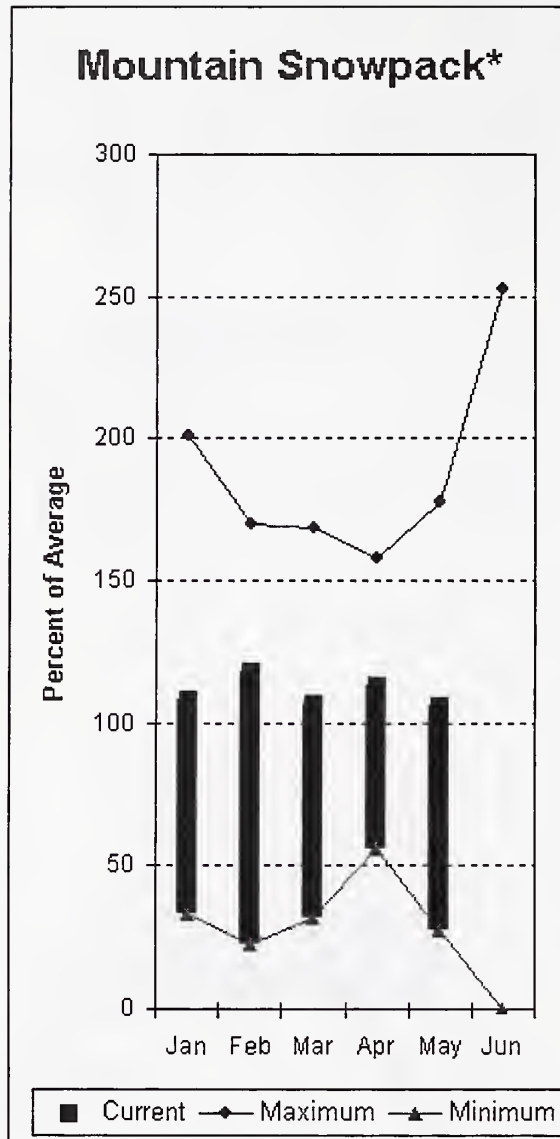
Walla Walla River Basin
Percent of Average
May 1, 2002

Snowpack - 123%
Precipitation - 99%



High Ridge ■

Lower Snake River Basin



*Based on selected stations

The May - September forecast is for 110% for Clearwater River at Spalding. The Grande Ronde River can expect summer flows to be about 90% of normal and the Snake River below Lower Granite Dam is forecasted to have only 84% of normal flows. April precipitation was 86% of average, bringing the year-to-date precipitation to 110% of average. May 1 snowpack readings averaged 106% of normal. April streamflow was 101% of average for Snake River below Lower Granite Dam and 135% for Grande Ronde River near Troy. Average temperatures were near 1 degree below normal for April and near average for the water year.

For more information contact your local Natural Resources Conservation Service office.

Lower Snake River Basin

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<----- Drier ----- Future Conditions ----- Wetter ----->						
		Chance Of Exceeding *						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
GRANDE RONDE at Troy (1)	MAY-JUL	516	684	760	87	836	1004	872
	MAY-SEP	603	790	875	90	960	1147	970
CLEARWATER at Spalding (1,2)	MAY-JUL	5265	6011	6350	110	6689	7435	5773
	MAY-SEP	5619	6418	6780	110	7142	7941	6188
SNAKE blw Lower Granite Dam (1,2)	MAY-JUL	11010	13272	14300	84	15328	17590	16940
	MAY-SEP	12595	15212	16400	84	17588	20205	19650

LOWER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of April

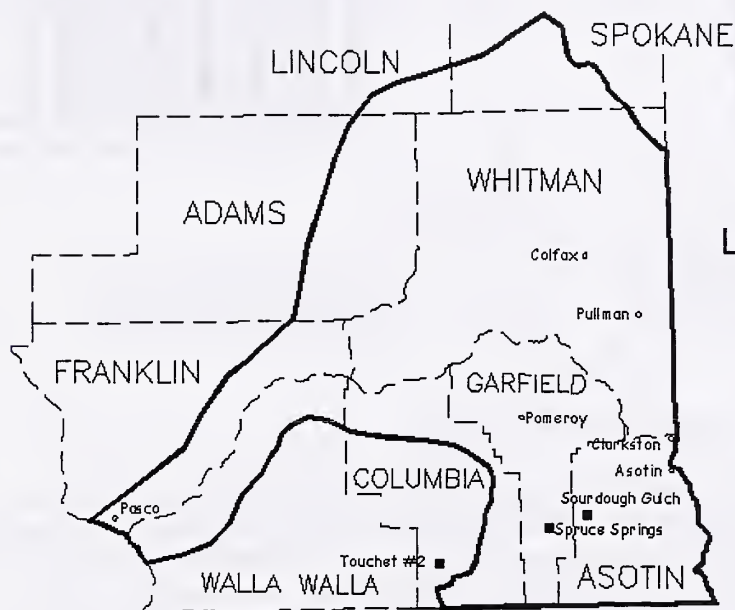
LOWER SNAKE RIVER BASIN
Watershed Snowpack Analysis - May 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					LOWER SNAKE, GRANDE RONDE	13	171	106

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

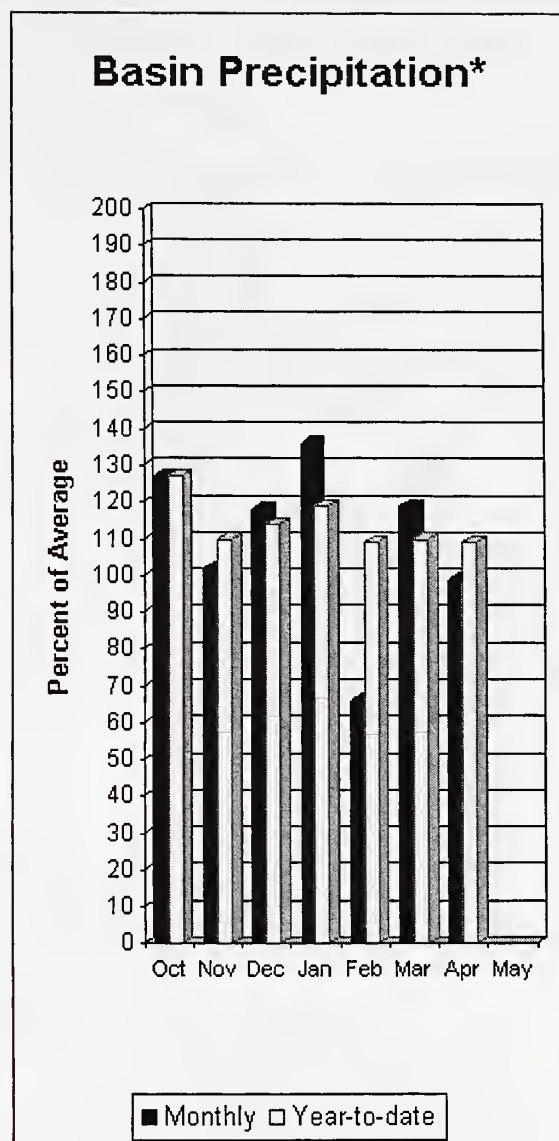
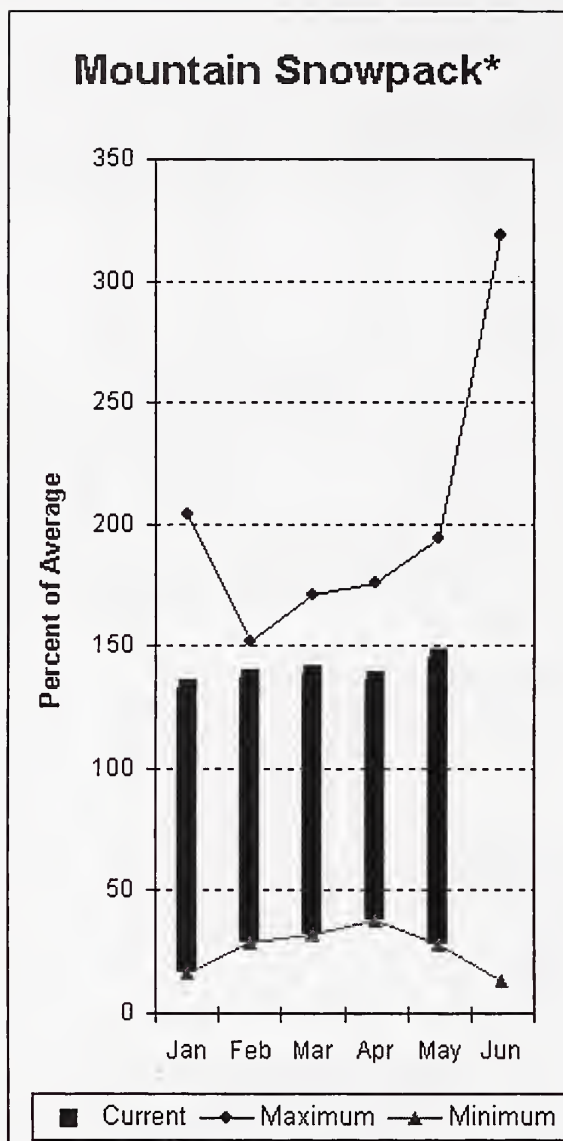
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Lower Snake River Basin
Percent of Average
May 1, 2002

Snowpack - 106%
Precipitation - 110%

Cowlitz - Lewis River Basins



*Based on selected stations

Forecasts for May – September streamflows within the basin are Lewis River at Ariel, 125% and Cowlitz River at Castle Rock, 97% of average. The Columbia River at The Dalles is forecasted to have 95% of average flows this summer. April average streamflow for Cowlitz River was 144% and 149% for Lewis River. The Columbia River at The Dalles was down slightly at 96% of average. April precipitation was 99% of average and the water-year average was 109%. May 1 snow cover for Cowlitz River was 123% and Lewis River was 166% of average. Paradise Park SNOTEL reported the most water content for the basin with 96 inches. Average May 1 water content is 74.8 inches. Average temperatures were 2 degrees above normal during April and have averaged 1 degree above throughout the water year.

For more information contact your local Natural Resources Conservation Service office.

Cowlitz - Lewis River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
LEWIS at Ariel (2)	MAY-JUL	711	785	835	125	885	959	667
	MAY-SEP	888	964	1015	125	1066	1142	812
COWLITZ R. b1 Mayfield Dam (2)	MAY-SEP	690	1154	1470	100	1786	2250	1478
	MAY-JUL	604	994	1260	101	1526	1916	1247
COWLITZ R. at Castle Rock (2)	MAY-SEP	843	1437	1840	97	2243	2837	1893
	MAY-JUL	720	1214	1550	98	1886	2380	1581
KLICKITAT near Glenwood	MAY-JUN	101	109	115	113	121	129	102
	MAY-SEP	134	145	153	113	161	172	135
COLUMBIA R. at The Dalles (2)	MAY-SEP	69644	76465	81100	95	85735	92556	85635
	MAY-JUL	58744	64434	68300	96	72166	77856	71413

COWLITZ - LEWIS RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					LEWIS RIVER	4	237	166
					COWLITZ RIVER	6	163	123

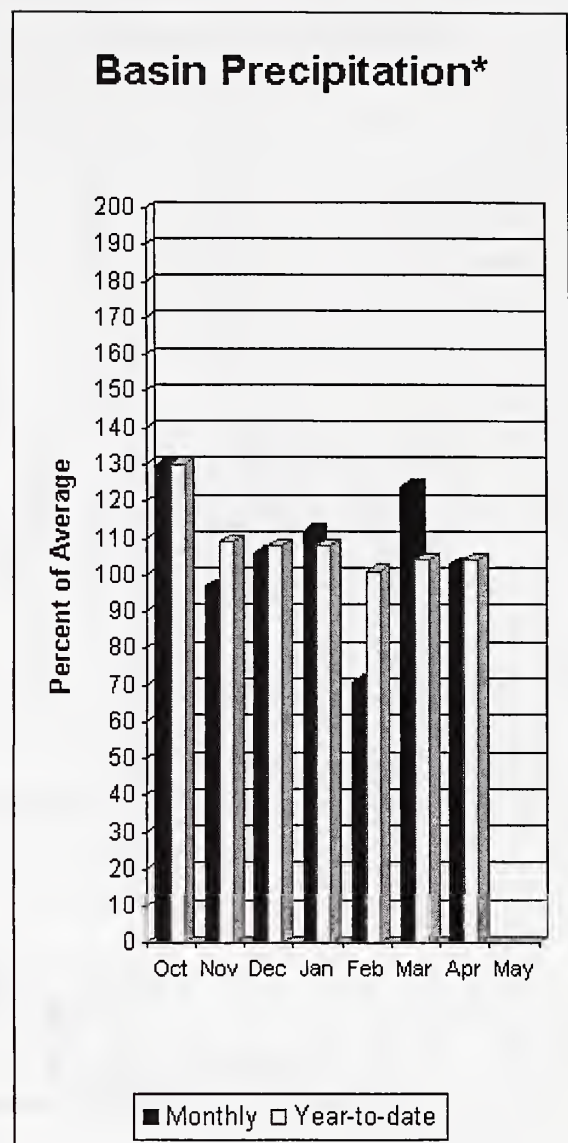
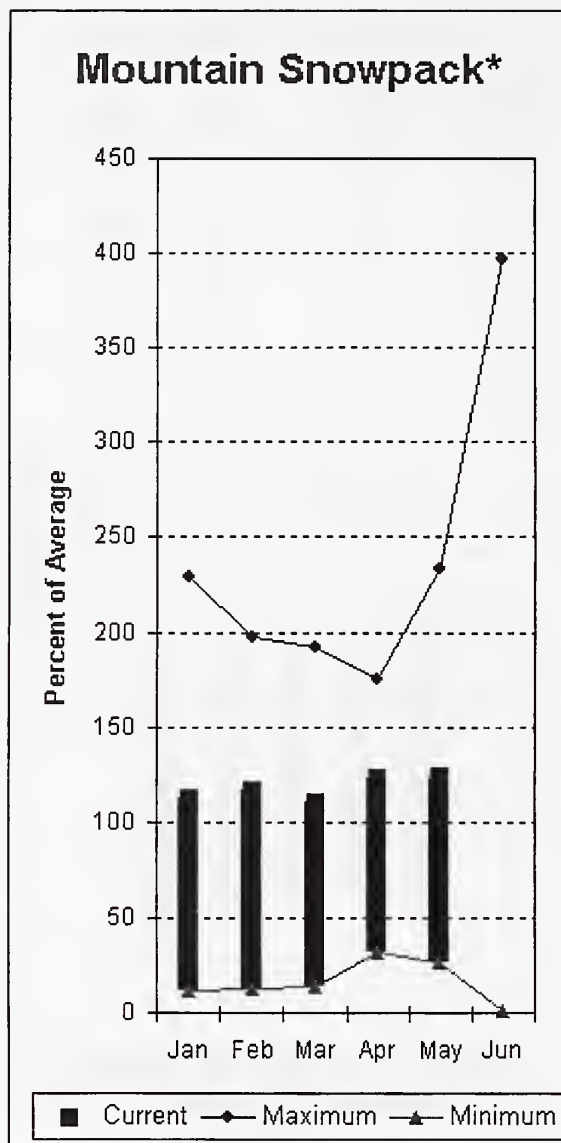
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The average is computed for the 1971-2000 base period.

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White - Green River Basins



*Based on selected stations

Summer runoff is forecast to be 123% of normal for the Green River below Howard Hanson Dam and 120% for the White River near Buckley. May 1 snowpack was 109% of average in both White River and Puyallup river basins and 153% in Green River Basin. Water content on May 1 at Corral Pass SNOTEL, at an elevation of 6,000 feet, was 46.5 inches. This site has a May 1 average of 35.3 inches. April precipitation was 103% of average, bringing the water year-to-date to 104% of average for the basins. Average temperatures in the area were 1 degrees below normal last month and remain near average for the water-year.

For more information contact your local Natural Resources Conservation Service office.

White - Green - Puyallup River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
WHITE near Buckley (1,2)	MAY-JUL	339	393	418	120	443	497	348
	MAY-SEP	444	503	530	120	557	616	442
GREEN below Howard Hanson (1,2)	MAY-JUL	161	185	196	123	207	231	159
	MAY-SEP	185	215	228	123	241	271	185

WHITE - GREEN - PUYALLUP RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

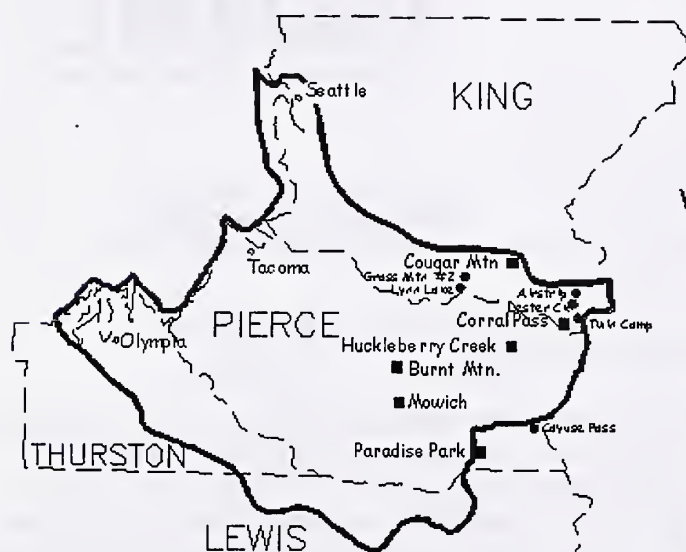
WHITE - GREEN - PUYALLUP RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
WHITE RIVER	3	196	109
GREEN RIVER	6	228	153
PUYALLUP RIVER	3	196	109

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

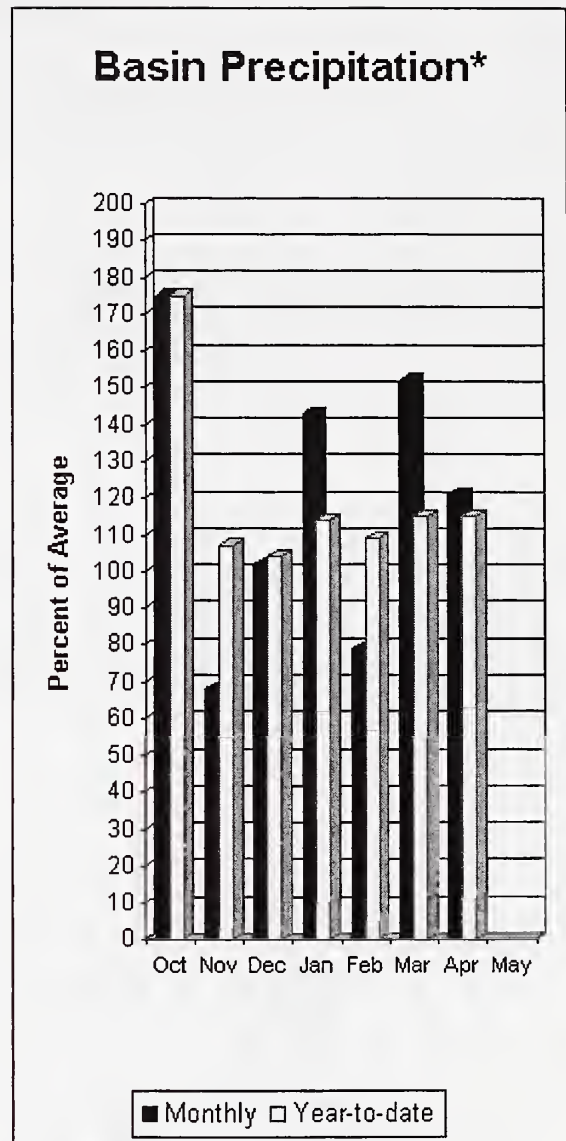
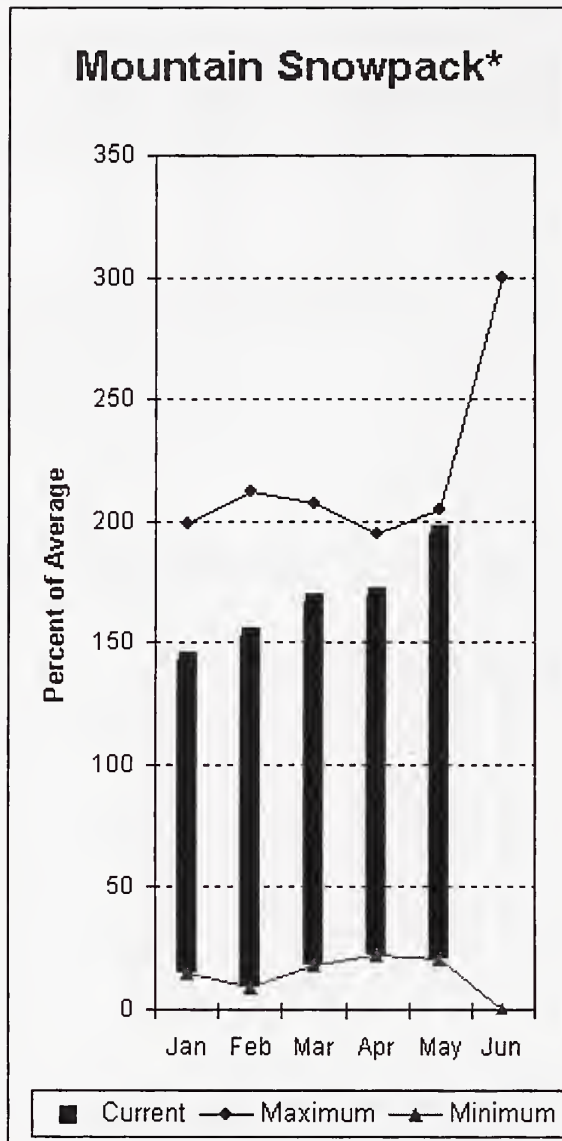
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White-Green-Puyallup Basins
Percent of Average
May 1, 2002

Snowpack - 124%
Precipitation - 104%

Central Puget Sound River Basins



*Based on selected stations

Forecast for spring and summer flows are: 166% for Cedar River near Cedar Falls; 170% for Rex River; 124% for South Fork of the Tolt River; and 165% for Cedar River at Cedar Falls. Basin-wide precipitation for April was 121% of average, bringing water-year-to-date to 115% of average. May 1 average snow cover in Cedar River Basin was 250%, Tolt River Basin was 215%, Snoqualmie River Basin was 170%, and Skykomish River Basin was 144%. Olallie Meadows SNOTEL site at 3,960 feet, had 74.9 inches of water content. Average May 1 water content is 55.1 inches at Olallie Meadows. April temperatures were 1 degree below average for the past month but 1 degree below normal for the water-year.

For more information contact your local Natural Resources Conservation Service office.

Central Puget Sound River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding *		30% (1000AF)	10% (1000AF)	
CEDAR near Cedar Falls	MAY-JUL	74	81	86	165	91	98	52
	MAY-SEP	85	93	98	166	103	111	59
R2X near Cedar Falls	MAY-JUL	24	27	30	170	32	35	17.4
	MAY-SEP	28	32	34	170	37	40	20
CEDAR RIVER at Cedar Falls	MAY-JUL	47	65	78	166	91	109	47
	MAY-SEP	40	61	76	165	91	112	46
SOUTH FORK TOLT near Index	MAY-JUL	11.1	12.6	13.6	124	14.6	16.1	11.0
	MAY-SEP	13.2	15.1	16.4	124	17.7	19.6	13.2

CENTRAL PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of April					CENTRAL PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - May 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					CEDAR RIVER	4	292	250
					TOLT RIVER	2	241	215
					SNOQUALMIE RIVER	5	229	170
					SKYKOMISH RIVER	3	200	144

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

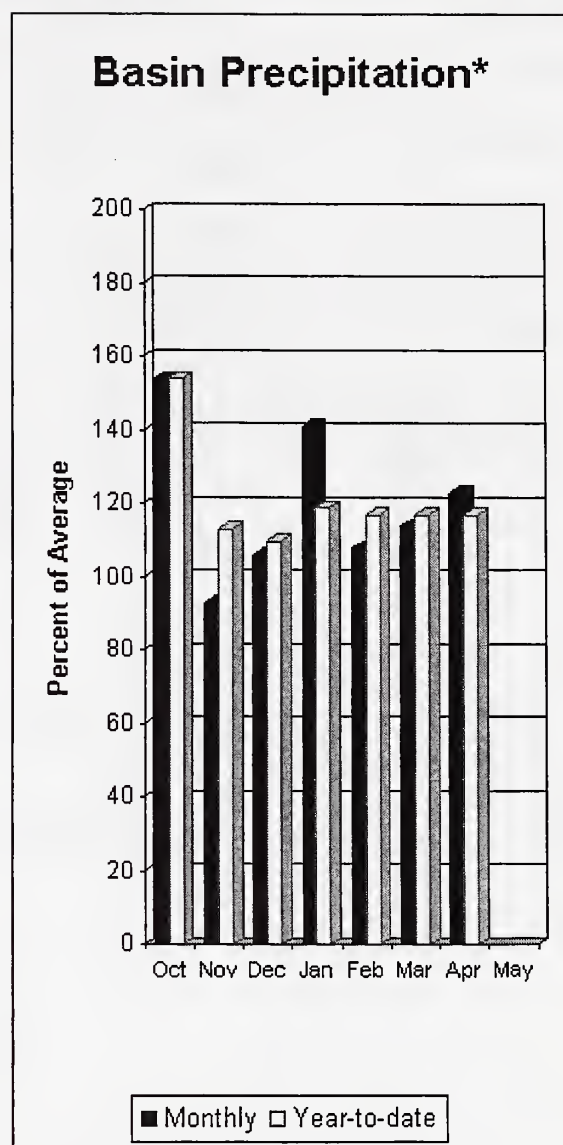
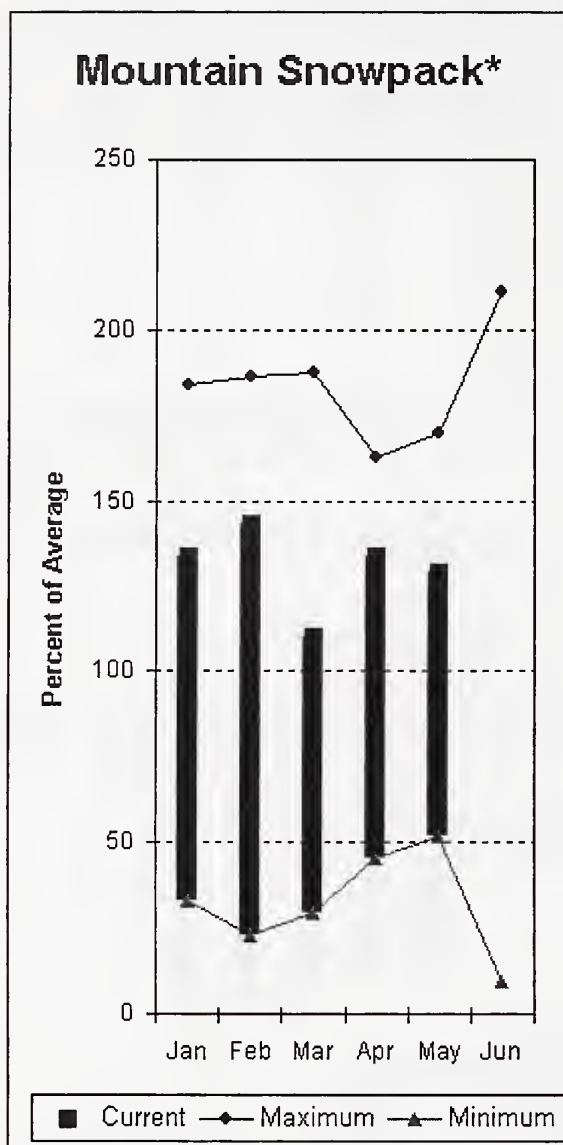
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Central Puget Sound Basins
Percent of Average
May 1, 2002

Snowpack - 195%
Precipitation - 115%



North Puget Sound River Basins



*Based on selected stations

Forecast for Skagit River streamflow at Newhalem is 112% of average for the spring and summer period. April streamflow in Skagit River was 134% of average. Other forecast points included Baker River at 114% and Thunder Creek at 110% of average. Basin-wide precipitation for April was 123% of average, bringing water-year-to-date to 117% of average. May 1 average snow cover in Skagit River Basin was 129%, Baker River Basin was 121%, and Nooksack River Basin was 136%. Rainy Pass SNOTEL, at 4,780 feet, had 49.1 inches of water content. Average May 1 water content is 43.2 inches at Rainy Pass. May 1 Skagit River reservoir storage was 87% of average and 47% of capacity. Average April temperatures were 1 degrees below normal for the basin and 1 degree below average for the water year.

For more information contact your local Natural Resources Conservation Service office.

North Puget Sound River Basins

Streamflow Forecasts - May 1, 2002

Forecast Point	Forecast Period	<<===== Drier =====		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
THUNDER CREEK near Newhalem	MAY-JUL	207	222	233	110	244	259	212
	MAY-SEP	315	331	341	110	351	367	310
SKAGIT at Newhalem (2)	MAY-JUL	1665	1751	1810	112	1869	1955	1611
	MAY-SEP	2043	2137	2200	112	2263	2357	1964
BAKER RIVER near Concrete	MAY-JUL	688	739	773	113	807	858	684
	MAY-SEP	903	978	1030	114	1082	1157	906

NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of April

NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROSS	1404.1	606.4	739.0	708.8	SKAGIT RIVER	11	276	129
DIABLO RESERVOIR	90.6	86.7	85.9	85.9	BAKER RIVER	3	212	121
GORGE RESERVOIR	9.8	7.7	7.8	8.0	NOOKSACK RIVER	1	230	136

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

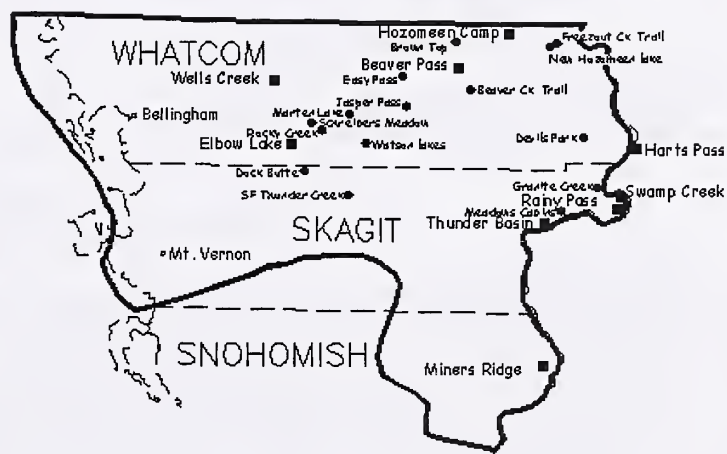
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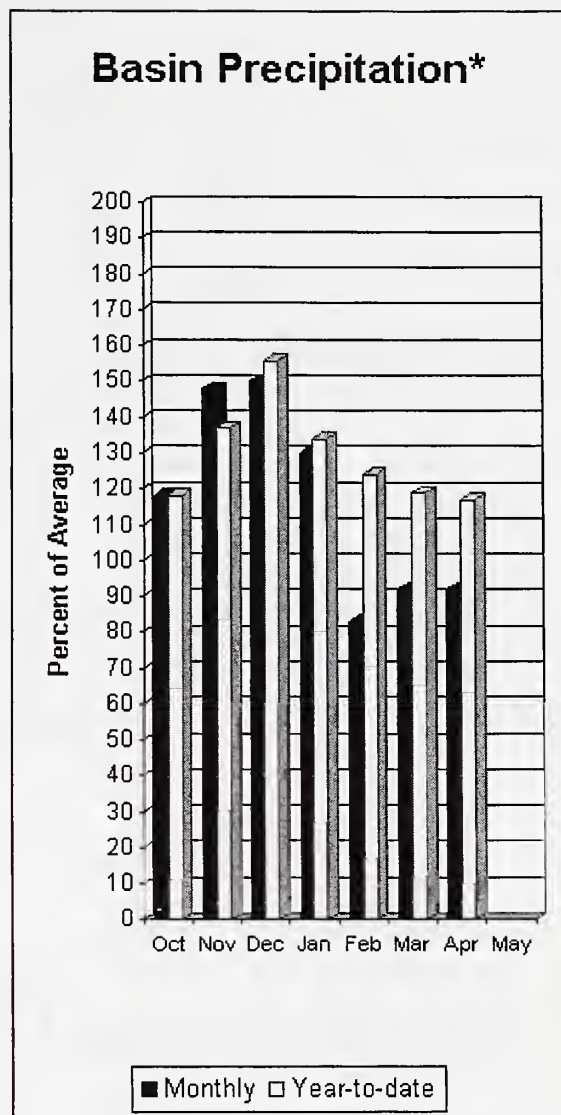
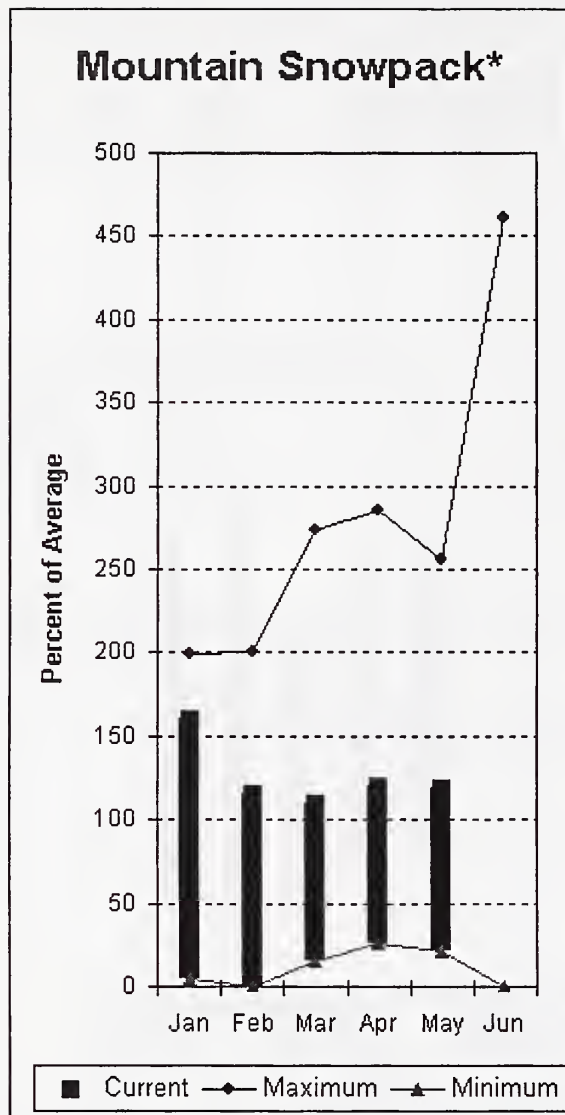
(2) - The value is natural flow - actual flow may be affected by upstream water management.

North Puget Sound Basins
Percent of Average
May 1, 2002

Snowpack - 129%
Precipitation - 117%
Reservoir Capacity - 87%



Olympic Peninsula River Basins



*Based on selected stations

Forecasted average runoff for streamflow in the Dungeness River is 107% and Elwha River is 109%. Big Quilcene and Wynoochee rivers should expect near average runoff this summer also. Dungeness River had 129% average flows during April. April precipitation was 92% of average and has accumulated to 117% of average for the water year. April precipitation at Quillayute WSO was 8.31 inches. The thirty-year average for April is 7.44 inches. Olympic Peninsula snowpack averaged 119% of normal on May 1. Mount Crag SNOTEL had 31.2 inches of snow water and 69 inches of depth on May 1. Average snow water for this site is 27.8 inches. Temperatures were near average for the month and for the water year.

For more information contact your local Natural Resources Conservation Service office.

Olympic Peninsula River Basins

Streamflow Forecasts - May 1, 2002

		<<----- Drier -----		Future Conditions		----- Wetter ----->>		
Forecast Point	Forecast Period	-----		Chance Of Exceeding *		-----		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DUNGENESS near Sequim	MAY-SEP	127	135	141	107	147	155	132
	MAY-JUL	102	108	112	107	116	122	105
ELWHA near Port Angeles	MAY-SEP	415	442	460	109	478	505	423
	MAY-JUL	329	351	365	108	379	401	338

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of April

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg

OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - May 1, 2002

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
OLYMPIC PENINSULA	4	219	119
ELWHA RIVER	1	547	116
MORSE CREEK	1	257	121
DUNGENESS RIVER	1	183	129
QUILCENE RIVER	1	146	112
WYNOOCHEE RIVER	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

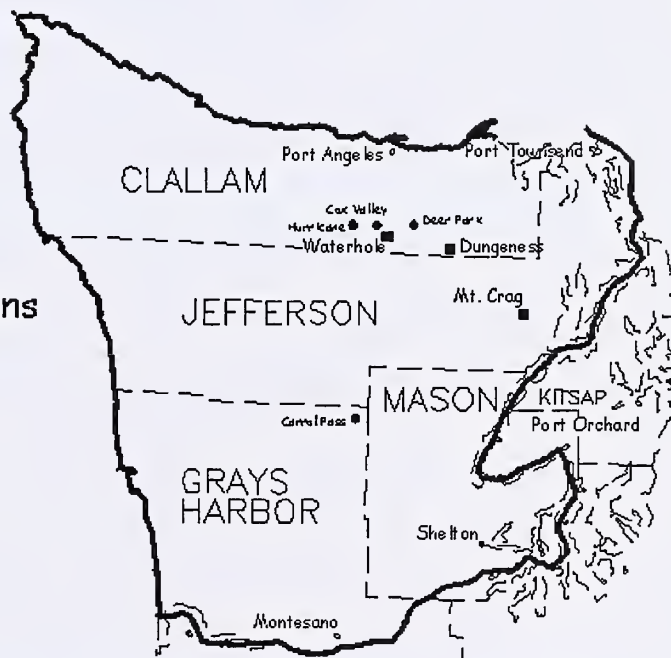
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Olympic Peninsula River Basins Percent of Average May 1, 2002

Snowpack - 119%
Precipitation - 117%



Water Supply Outlook Reports and Federal - State – Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

Local Natural Resources Conservation Service Field Office

or

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Natural Resources Conservation Service
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Mt. Vernon, WA 98273-2873
(360) 428-7684

or

Betty Schmitt
Public Affairs Specialist
Natural Resources Conservation Service
316 W. Boone Ave., Suite 450
Spokane, WA 99201-2348
(509) 323-2912

How forecasts are made

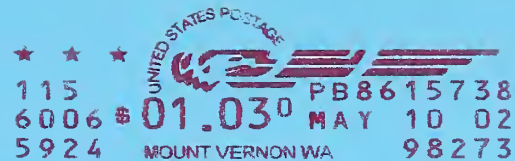
Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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